TRANSIT-CAR DESIGN: A TEAM APPROACH

February 2/9, 1970

RAILWAY AGE

THE TRANSPORTATION WEEKLY

McCARTNEY LIBRARY
GENEVA COLLEGE

Koppers' R. H. Devine on:

The wood crosstie—Supply and demand

For Mexico's Metro, mañana is today

Why Reading calls the Bee-Line a success

RD70 1116
MCCARTNEY LIBRARY
GENEVA COLLEGE
BEAVER FALLS PENN 15010

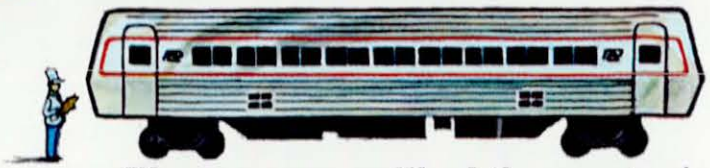
The little Metroliner that could.

Once upon a time there were two cities called New York and Washington. The people in these cities loved to visit each other, and their cousins in Philadelphia and Baltimore, too.

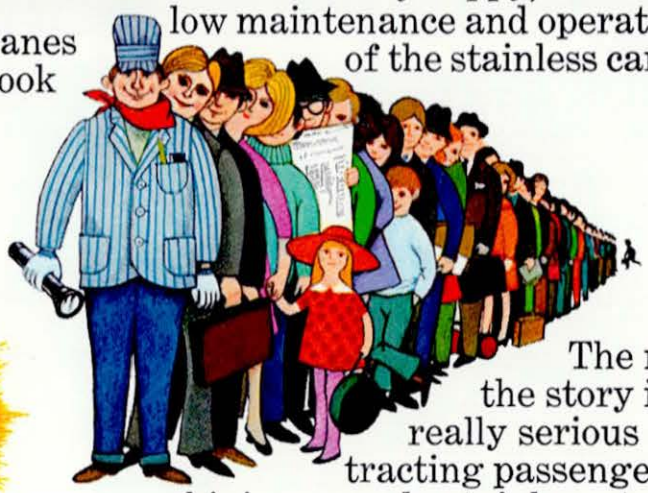
But as the highways and airlanes got more and more crowded, it took more and more time to get back and forth.

Then one day the people at the Penn Central Transportation Co. and the U.S. government had an idea. Why not improve the roadbed and run high-speed passenger trains between the cities?

So they got to work, and the Budd Company built a set of shiny new trains called Metroliners. Naturally, they used nickel stainless steel so the cars would be beautiful, corrosion-resistant, strong, and lightweight.



The passengers liked the new trains so much that they often bought up all the reserved seats, days in advance. The trainmen were very proud to work on Metroliners. And the railroad accountants were very happy, because of the low maintenance and operating costs of the stainless cars.



The moral of the story is, if you're really serious about attracting passengers, use a shining, speedy stainless steel train. And then you can add your chapter to the story of trains that could.

For more information on nickel stainless steel for railway and transit cars, write to The International Nickel Company, Inc., 67 Wall Street, New York, N.Y. 10005. In Canada, The International Nickel Company, Limited, P.O. Box 44, Toronto-Dominion Centre, Toronto 111, Ontario. INTERNATIONAL NICKEL

We stock huge quantities of track bolts in a full range of sizes for mainline railroad requirements. That's why we can offer fast service on your emergency orders. Actually, the 24-hour limit provides us with some leeway. Most rush orders . . . for a keg or two or a carload or more . . . are filled and on their way within five to eight hours after being phoned in to our sales offices.

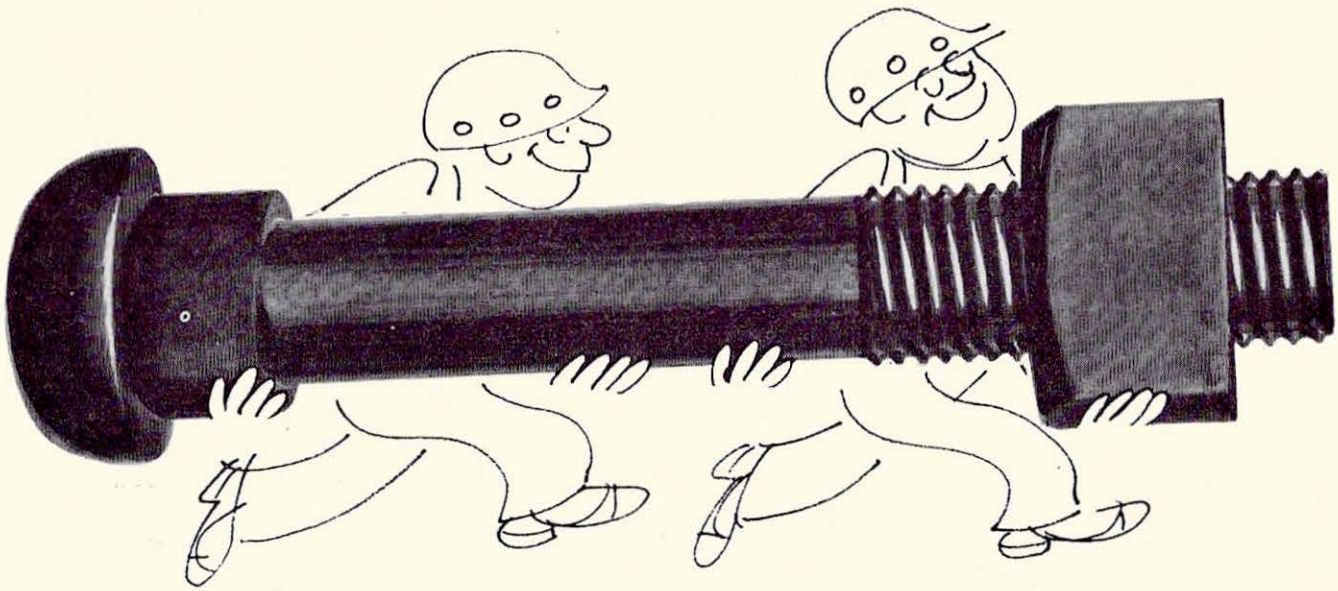
Next time you're in a rush for track bolts, let us show you how fast we can move. Just call the nearest Bethlehem sales office and ask for 24-hour shipment. We'll take it from there.

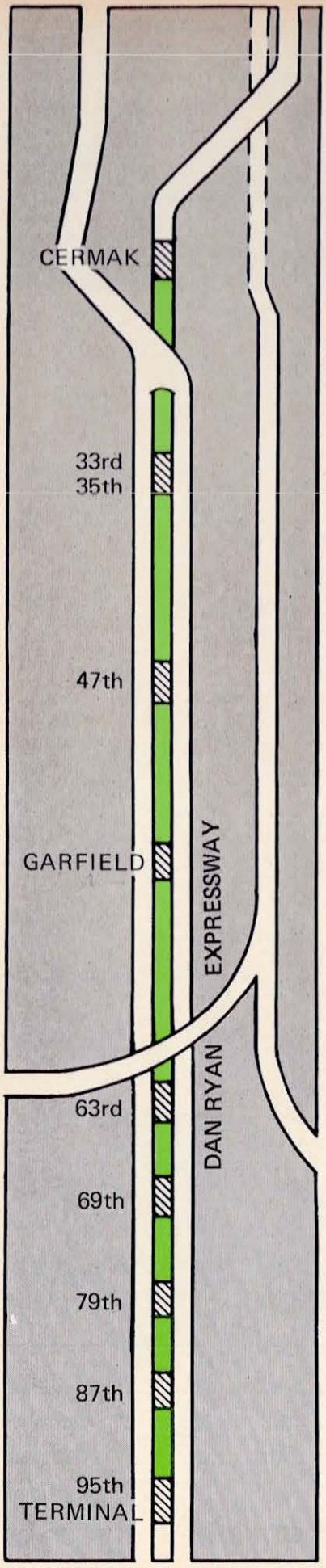
Bethlehem Steel Corporation, Bethlehem, PA 18016

BETHLEHEM STEEL

Electronic transmission equipment speeds your order from sales office to home office in six minutes flat. Same swift service from home office to mills and warehouses.

Bethlehem ships rush orders for track bolts in 24 hours ...or less



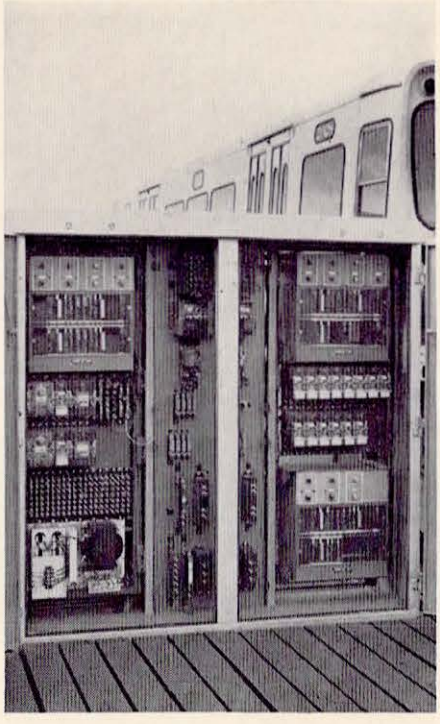


Chicago Transit Uses GRS Systems on New Median Strip Transit Line

Unhampered by traffic jams, Chicago transit riders now travel in swift, safe comfort along the median strip of the Dan Ryan Expressway.

The stainless steel cars, well lighted and air-conditioned, glide smoothly on continuous welded rails. The train speed and safety control system too is thoroughly modern, with controls transmitted directly to the trains via GRS high-frequency electronic track circuits—ideally suited for jointless continuous rail.

At strategic switching tower areas, other GRS systems provide interlocking route-setting controls for switches and signals. Included is "NX", the GRS pushbutton control system that is a world standard for efficient, high-speed control of busy rail traffic centers.



Typical wayside electronic control system case.

GENERAL RAILWAY SIGNAL COMPANY

A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602

ATLANTA BOSTON CHICAGO MONTREAL NEW YORK OAKLAND ST LOUIS ST PAUL

Circle 4 on coupon page 40

RAILWAY AGE

February 2/9, 1970 • Vol. 168, No. 2

THIS WEEK

16 **Supply and demand in the wood crosstie industry**

18 **For Mexico's Metro, manana is today**

20 **Cities advised: Prepare for transit aid**

22 **Burlington TV spots win high rating in Chicago**

24 **NYCTA car design: A team effort**

34 **How Reading uses Bee-Line as a traffic lure**

36 **Additives counter engine problems**

38 **Northern Lines merger wins court OK**

56 **Viewpoint—There oughta be a law**

DEPARTMENTS

21	As the Editor Sees It	49	Railway Market
49	Freight Carloadings	8	Short and Significant
45	Letters from Readers	47	Supply Trade
12	Lines on Labor	47	Transit Personnel
7	Monday Morning Report	56	Viewpoint
49	New Equipment	33	Watching Washington
40	New Products Report	11	Week at a Glance
53	People in the News	52	You Ought to Know

. . . AND COMING NEXT ISSUE

TOMORROW'S RAILROADS IN ACTION: No. 2 in this new series examines service quality—and how three roads are working to achieve it. Also: How railroads can benefit from Kimberly-Clark growth. Another in a series of articles promoting ship-by-rail. Like all Freight Traffic Issues, this one will be mailed to 10,000 shippers in addition to our regular list of subscribers.

Editorial and Executive Offices
New York, N.Y. 10007, 30 Church St.

ROBERT G. LEWIS: Publisher
LUTHER S. MILLER: Editor
FRED C. MILES: Executive Editor

Mechanical: Fred N. Houser
Associate Editor: Philip Harrison
Car & Locomotive Cyclopedia: Charles L. Combes
Art Director: Maurice H. Mates
Art Editor: Marvin Friedman
Editorial Assistant: June Meyer
Market Research: Robert N. Paltos
Librarian: Edith C. Stone
Production Manager: Fred B. Hecht
Manager—Contract Department: Constance Nicolai

Editorial and Executive Offices
Chicago, Ill. 60602, 29 E. Madison St.

C. JAMES FISHER: Vice President—Sales
GUS WELTY: Senior Editor
Mechanical: Robert D. Bartley
Engineering: Merwin H. Dick R. E. Dove
Signaling & Communications: Robert W. McKnight
Editorial Assistant: Wanda Brown

Washington, D.C. 20004, National Press Bldg.
Washington Editor: Frank Malone

Brighton, Sussex, England
8 St. George's Place
International Editor: John Levett

Contributing Editors:
Norman E. Gillespie
3205 Chelsea
Orlando, Florida 32803

Charles Layng
6019 Nashua Ave.
Orlando, Florida 32809

E. L. Woodward
876 Chattanooga Ave.
Pacific Palisades, Calif. 90272

GEORGE DUSENBURY: Editorial Director

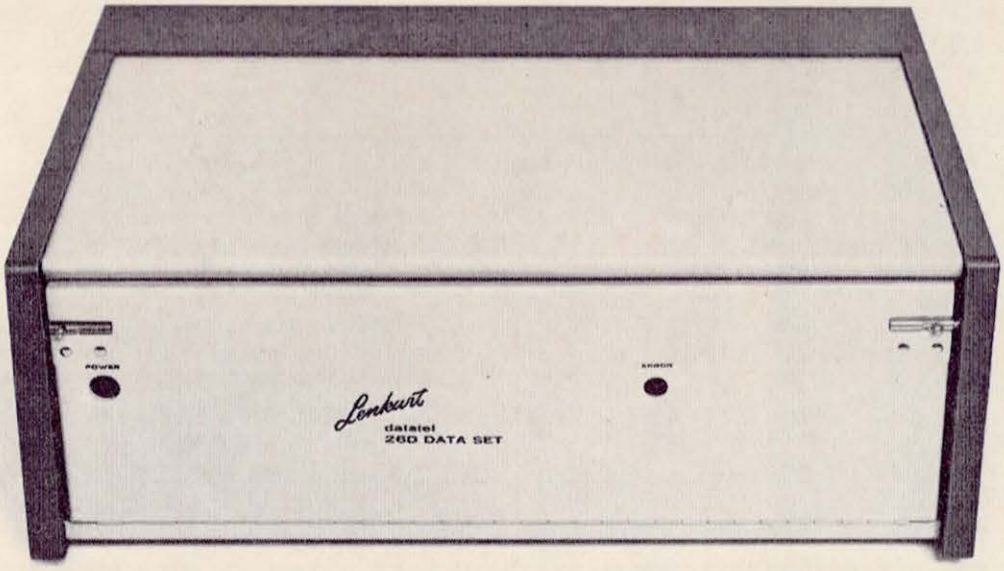
FOR LIST OF SALES OFFICES SEE ADVERTISING INDEX PAGE

Member of ABC RPI

Railway Age, established in 1856, is indexed by the Business Periodicals Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.
Published weeky (except for six issues combining two-in-one) by the Simmons-Boardman Publishing Corporation, 508 Birch St., Bristol, Conn. 06010.
Railroad employees' subscription rate, U.S. possessions, Canada and Mexico, $6 one year, $9 two years, all others $15 for one year, payable in advance and postage paid. To railroad employees elsewhere in the western hemisphere, $10 a year; in the eastern hemisphere, $15 a year. Single copies 60¢, except special issues.
Address all subscriptions, change of address and correspondence concerning them to Subscription Dept., Railway Age, P.O. Box 530, Bristol, Conn. 06010.
Change of address should reach us three weeks in advance of next issue date. Send old address with new enclosing, if possible, your address label. Post Office will not forward copies unless you provide extra postage.

Circulation Dept.: John Rogers Director of Circulation, 30 Church St., New York, N.Y. 10007. POSTMASTER—SEND FORM 3579 TO P.O. BOX 530, BRISTOL, CONN. 06010.
Printed at the Hughes Printing Co., 34 North Crystal St., East Stroudsburg, Pa. 18301. Second-class postage paid at Bristol, Conn., and at additional mailing offices.

Introducing the first 4800 bps data modem that acts like one.



The new Lenkurt 26D delivers what other 4800 bps data modems promise.

With the 26D you'll get higher throughput and have fewer errors to contend with.

The reason is Lenkurt's unique correlative coding which employs a modified duobinary technique. It compresses the required bandwidth and uses a simpler signal with fewer amplitude levels. So there's a much better signal-to-noise ratio.

The results: Fewer errors. More throughput. Reduced transmission costs.

And the 26D has other features you'll appreciate.

An optional 150-bps secondary channel is available for error control. And automatic error detection to eliminate redundant parity check bits (another bonus of the correlative method).

There are also built-in facilities to simplify alignment and permit faults to be located in the data terminal, the line, or the data set.

The 26D can be arranged for simplex, half-duplex, or full-duplex operation. It will operate over any C2 conditioned voice channel. And it is fully compatible with EIA standards, CCITT recommendations, and MIL standards.

So if you've been looking for a 4800 bps data modem that really acts like one, take a good look at the new 26D.

It delivers.

LENKURT ELECTRIC
GENERAL TELEPHONE & ELECTRONICS

Write Lenkurt Electric Co., Inc. Dept. C720, 1105 County Road, San Carlos, California 94070.

Data Transmission Systems from Lenkurt

MONDAY MORNING REPORT

THE TRANSPORTATION GAP

When it comes to gaps, America has had its share—the dollar gap, the missile gap, the generation gap and the credibility gap, to name a few. At the recent New York meeting of the Transportation Association of America two more were identified—the gaps in transportation funding and transportation productivity.

ONE ANSWER: A TRANSPORTATION TRUST FUND

Transportation Secretary John A. Volpe said that despite its expenditure of 20% of the Gross National Product on the movement of people and goods, America was neither spending wisely nor well. "The serious deterioration brought about by insufficient funding of present metropolitan transportation systems and the steadily increasing traffic congestion" were cited as examples of national ineptitude. "We badly need," said Volpe, "an all-encompassing total 'Transportation Trust Fund' to provide balanced financing and permit the tailoring of transportation facilities to meet local problems." Volpe envisions it allowing states to transfer highway funds to other modes.

PROBLEM: NO BROAD SCALE PLANNING

Bryce Wyman, head of General Electric's Transportation Systems Division also endorsed the Trust Fund idea—but, he said, "It's not only the case of dollars. It is a case of lack of balance and lack of integration between modes that has generated the transportation gap which we enter in the 1970s. We have been unwilling to look at passenger transportation as a total system from point of departure to point of destination. To date, the senseless in-fighting between modes has prevented any semblance of broad scale systems planning." For freight, George L. Green of Pullman-Standard, suggested that integration would have to be carried a step further so that transportation and in-plant materials handling would function in concert "to lower distribution costs . . . and gain more business for the railroads."

THE GAP TO END ALL GAPS

All modes are caught in the squeeze of all-time-high interest rates, escalating labor costs, and rates and fares fixed by slow-moving regulatory agencies. John L. Weller of Hayden Stone warned that the outlook for investors in transportation is not encouraging unless they can be assured of a return. "This means we must have a better regulatory and legislative climate for transportation than has existed in the past decade . . . If investors are to supply the huge capital requirements of transportation there must be a better atmosphere for profits—a common effort to concentrate on productivity and an end to the bickering between modes which has held up progress." And if the productivity gap can be closed, the other may vanish.

SHORT AND SIGNIFICANT

Transit bill wins Senate OK, faces rough House ride

Approved by the Senate by a vote of 83 to 4 last week, the Administration's $10-billion transit-aid bill is now ready for House hearings, scheduled to start in March. Backers of this long-sought legislation aren't complacent over the lopsided Senate vote. They have long felt that the real test will come in the House, which is more conservative on money matters, and they are urging supporters to let Congressmen know that the bill has strong grass roots support.

As passed by the Senate, the bill contained few surprises, following substantially the lines of an agreement hammered out earlier between the Administration and transit interests who wanted a stronger obligational authority than originally proposed (RA, Nov. 3, 1969, p. 14). The bill would permit immediate obligation of $3.1 billion for the initial 5 years of the 12-year plan. While only 12.5% of the money could go to any one state, the Senate agreed to give the Secretary of Transportation discretionary funds amounting to 1.5% of the total, plus an additional 6% provided that no more than one-fourth of that 6% went to any one state.

In other action, the Senate on Jan. 30 passed a bill providing railroads with protection against discriminatory state taxes, and on Jan. 26 approved a bill giving shippers an opportunity to recover "reasonable" attorney fees in suits against carriers.

U.S. court slams door on ICC order

The U.S. District Court in Minneapolis has enjoined the ICC from enforcing its earlier order that grain consignees must remove paper grain doors from box cars before the cars are released (RA, Jan. 26, p. 7). Thus, railroads must again be responsible for these chores—which by some estimates cost the roads about three car-days per trip.

Nixon requests right to sell Alaska Railroad

Anyone worried about nationalization of the railroads may find some comfort in the fact that the government seems to be heading in the opposite direction—by proposing to sell the federally-owned Alaska Railroad. The proposal was included in last-minute cutting of President Nixon's budget for fiscal 1971, as part of an effort to attain a "credible" surplus. The book value of the 802-mile ARR is $128 million, without consideration of land holdings, an FRA spokesman says. The Transportation Department is reported to be considering a $100-million sale price. However, legislation authorizing the sale still must be obtained.

PC restores two trains on New Haven

Acting on an order by the Interstate Commerce Commission (RA Jan. 19, p. 24), the Penn Central has now restored the service and schedules between Boston and Maybrook, N.Y., which prevailed before the New Haven was merged with PC. Maybrook is an interchange point with the Erie Lackawanna. Two freight trains were restored and the schedules of three others, revised. An icing station at Maybrook was reopened.

To Our Readers

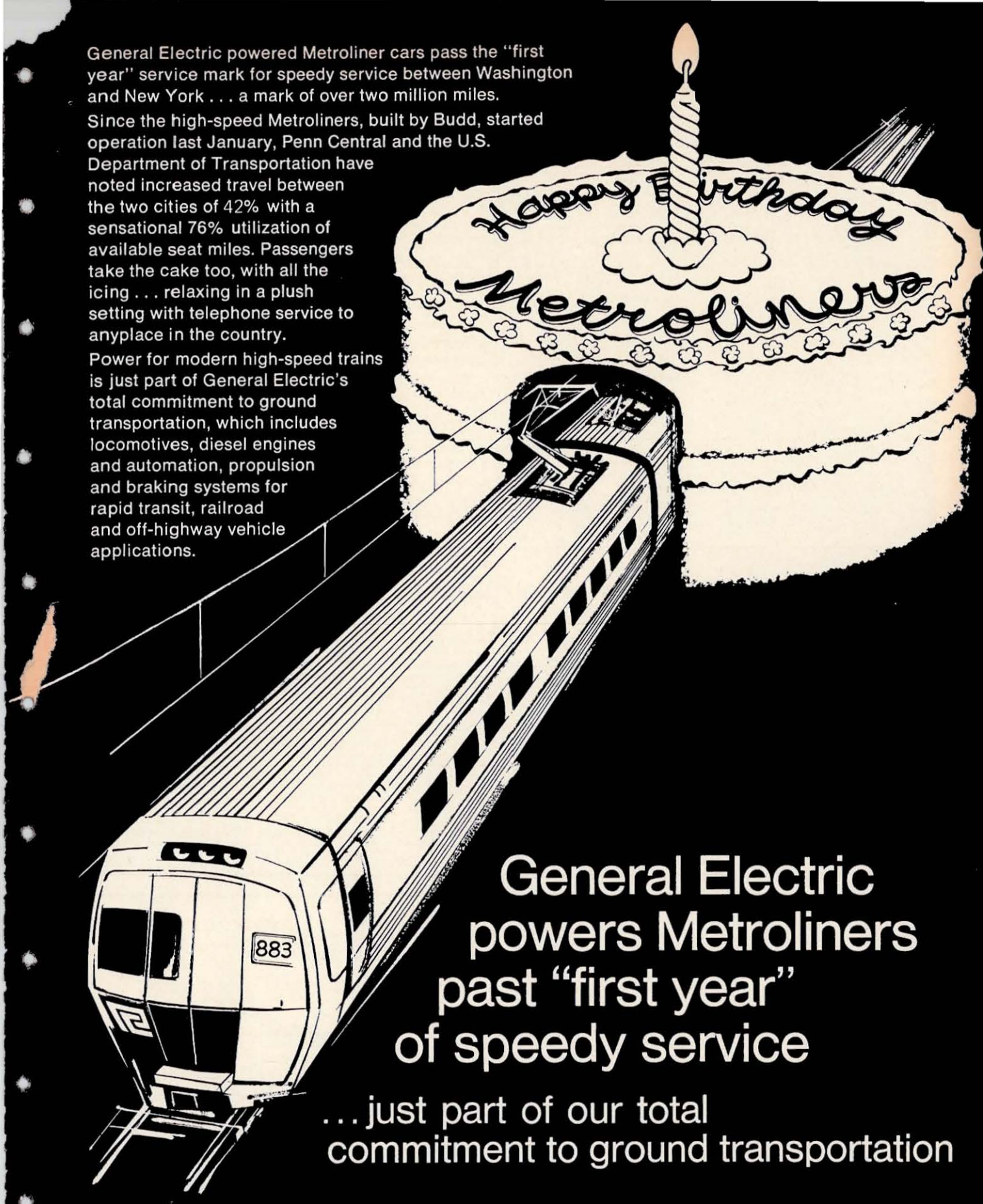
Effective with the next issue—which will be dated February 23—Railway Age will inaugurate a new publishing schedule. In future, the magazine will be published on the second and last Mondays of each month. As a semi-monthly, Railway Age will have double the frequency of any other rail magazine in America.

Along with the change of frequency, a number of editorial changes will be made. The news section will be approximately doubled in size, with emphasis on interpretive reporting. The feature section—reporting on railway management and operations—will be substantially increased in size. Regular departments, such as New Products, People in the News and Market Outlook, will be similarly increased. New features will be added, including a stock market page.

General Electric powered Metroliner cars pass the "first year" service mark for speedy service between Washington and New York . . . a mark of over two million miles.

Since the high-speed Metroliners, built by Budd, started operation last January, Penn Central and the U.S. Department of Transportation have noted increased travel between the two cities of 42% with a sensational 76% utilization of available seat miles. Passengers take the cake too, with all the icing . . . relaxing in a plush setting with telephone service to anyplace in the country.

Power for modern high-speed trains is just part of General Electric's total commitment to ground transportation, which includes locomotives, diesel engines and automation, propulsion and braking systems for rapid transit, railroad and off-highway vehicle applications.



General Electric powers Metroliners past "first year" of speedy service

. . . just part of our total commitment to ground transportation

TRANSPORTATION SYSTEMS DIVISION, ERIE, PA. 16501

GENERAL ELECTRIC

605-22

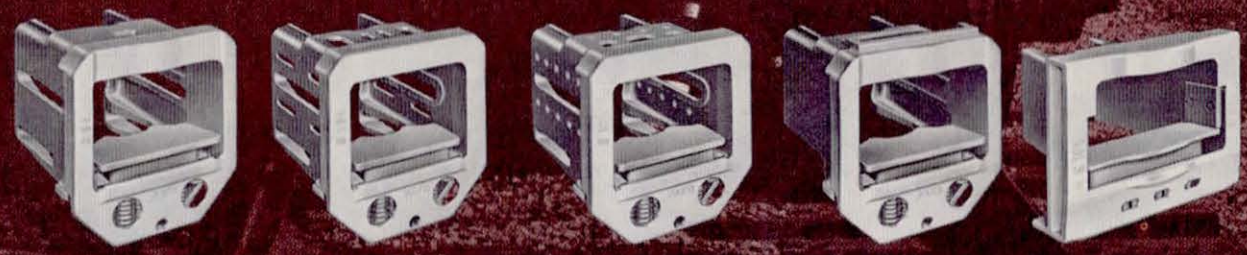
if it rolls on rails specify
SYMINGTON

Symington striker castings are engineered and built to meet design strength and application requirements of AAR specifications for freight and tank cars.

Shown here are AAR standard and special design strikers for use with Type "F" interlocking couplers. We also furnish strikers for use with Type "E" couplers with integral carrier or coupler height adjustment swing carriers.

Look to Symington for the best in design, engineering and service. Write today for complete technical information on our striker castings.

SYMINGTON
Striker Castings Assure The Quality, Consistency And Ruggedness So Essential In This Area Of The Car



AAR Standard Design for welded application through slots in center sill.

AAR Standard Design for welded application through slots in casting.

AAR Standard Design for riveted or high strength bolt applications.

Special Design with fabricated pin and support retainer, for welded or riveted application to AAR "Z" sills. Custom Designs available.

Special Design without front draft lugs for welded application on cushion underframe cars.

NOTE: Special Designs of above-shown types are available for welded or riveted applications to AAR "Z" sills with 36" draft gear pocket.

MEMBER RPI RAILWAY PROGRESS INSTITUTE

DRESSER TRANSPORTATION EQUIPMENT DIVISION
Dresser Industries, Inc., 332 S. Michigan Ave., Chicago, Ill. 60604 • (312) 939-1280

Sales Offices: Atlanta • Baltimore • New York • Philadelphia • Roanoke • St. Louis • San Francisco
In Canada: W. K. Davidson, Sales Agency, Montreal

Circle 7 on coupon page 40

WEEK AT A GLANCE

Shopcraft case: Heading toward another deadline

The shopcraft wage/rules dispute may or may not plunge the nation into a transportation crisis Feb. 10.

At this point, not much else can be said about the case, which has now stretched from late 1968 through 1969 and into 1970.

Management and union negotiators met in joint session with Assistant Secretary of Labor William J. Usery last Monday, Feb. 2. On Tuesday, they met separately with the government's intermediary. In initial comments, Usery did not seem optimistic that the hoped-for voluntary settlement could be reached.

Meanwhile, the clock was running—on a 10-day restraining order issued Jan. 31 by U.S. District Judge John J. Sirica which ordered shopcraft workers back to work on Union Pacific and barred the rest of the nation's railroads from carrying out a shutdown planned for the evening of Jan. 31. Still unknown last week were the Administration's or Congress's feelings regarding direct intervention. In putting both sides under a 10-day hold, Judge Sirica noted that one effect of his order would be to "give Congress the opportunity to take whatever steps it may consider are warranted by the circumstances." In 1967, in another shopcraft dispute, Congress imposed arbitration. But last week there was no immediate move to get legislative proposals moving in House or Senate. Both the Administration and Congress, apparently, were choosing to keep their options open as long as possible.

The Metroliner picks up a distinguished new customer

The freshly scrubbed Metroliner that pulled out of Washington's Union Station at 5:17 p. m. on Jan. 24 was much like any other Metroliner except that

—The last car of the four carried a flashing red light to guide two government helicopters hovering overhead.

—Twelve seats were ripped out of the forward parlor car to make room for portable radio consoles housed in plywood-paneled cubicles.

—A four-car pilot train ran 10 minutes ahead.

—There were 110 members of the press aboard.

—And the occupant of Seat 18 of Metroclub Car No. 883 was Richard M. Nixon, who thus became, according to reports, the first living President to ride a train since 1962.

The White House decided on Jan. 14 to charter a Metroliner for the President's trip to Philadelphia 10 days later, when he was to attend a concert marking the Philadelphia Orchestra's 70th anniversary and Conductor Eugene Ormandy's 70th birthday. Penn Central passenger vice president Howard C. Kohout made the arrangements. The equipment was

withdrawn from regular service three days ahead of time for a thorough electrical and mechanical check. On the appointed day, the Metroliner performed flawlessly, departing 13 minutes ahead of schedule and arriving at Philadelphia 16 minutes early.

Reporters dubbed the train the "John Volpe Special," but the Secretary of Transportation was not among the President's party of 65. Mr. Volpe told Railway Age that he talked with the President the next day and "he said he had a marvelous time." Mrs. Nixon said the ride was "lovely."

Conductor Frank E. Brown was disappointed that the President didn't take a walk through the train. The President did quiz Attendant Emery A. Nauden about public reaction to the high-speed trains. Nauden told him: "People like these trains, Mr. President. Business is good and most passengers are very kind about the service."

The special communications equipment installed in the foward parlor car apparently wasn't needed. To call the White House, the President used a Metroliner phone.

Riding with the Presidential party were three Penn Central officers — W. L. Millar, director of passenger sales; Clifford B. Alban, assistant director of passenger service; and Howard Gilbert of the public relations staff.

GUS WELTY

LINES ON LABOR

THE ANATOMY OF A STRIKE is seldom pretty. About all it has in common with, say, the anatomy of a Raquel Welch is that both have twists and turns and curves at which the mind frequently boggles. Consider, strike-wise, the shape of the situation which existed in the railroad industry at 12:01 a.m., Saturday, Jan. 31, and in the hours following.

THE SHOPCRAFTS STRUCK Union Pacific, with no official warning and precious little of the unofficial kind. The industry reacted with notice of a nationwide shutdown, to take effect at 10 p.m. Saturday. Both sides went to court. A U.S. District judge in Washington found sufficient cause to enter an order blocking the industry shutdown and sending the UP strikers back to work. By Saturday evening, UP was back in business. And a new round of talks was then scheduled for the following Monday.

NOW, HOW ABOUT those twists and turns and curves? First of all, the shopcrafts' choice of UP seemed a smart one, on the surface. The strike was against a single road. It was against a road commonly regarded as well-to-do—not against some poor-relation of the industry, whose plight would excite immediate sympathy in government and in the public eye. Score one for the unions. But then take part of the score away—if you believe, as one observer does, that "Friday midnight is about the least harmful time you could pick to pull a strike." Still—twist again—UP, though it's only one road, is a mighty one in relation to total industry traffic patterns.

THERE WAS LESS CURVINESS on the industry's side, in its handling of the situation. The planned shutdown was promptly announced. There was a raised eyebrow here and there— because the industry's move was scheduled for almost a full day after UP was hit and thus would not come as a knee-jerk reaction. But, after all, it takes time to close down a railroad. And many things could—and did—happen between announcement time and implementation time.

WEEKEND NEWSPAPERS, naturally, had a field-day describing what was happening and what might happen. For what it's worth, a fast sample of instant comment seemed more critical of union action than of management reaction. The press took full note of the fact that a very small number of employees were setting off a massive explosion. UP itself, for instance, has 30,600 employees. The four striking shopcrafts claim 2,355. The Sheet Metal Workers—who *really* triggered things—number just 392.

L&N, Monon should merge, ICC examiner says

Although Louisville & Nashville will have two routes into Chicago with acquisition of the Monon, "the competitive situation from the Southeast will not be substantially changed," ICC Examiner James E. Hopkins says in a report favoring merger of the two railroads. Competition will be preserved by (1) granting Milwaukee Road trackage rights to create a Milwaukee-Southern Railway route, (2) pressure by Penn Central at common points and, (3) the position of Norfolk & Western and C&O/B&O.

Monon, Hopkins points out, "is one of the few remaining Class I railroads in the eastern district not affiliated in some way with a larger railroad system."

The proposed merger, Hopkins says, "will lead to strong intramodal competition in the territory, will promote the effective development of rail transportation for the shippers and receiving public, will bring about many significant services and other advantages to the Monon with resultant benefits to the shipping and receiving public, will aid the applicants in their competitive posture with motor and barge carriers, all in line with the objectives and purposes of the national transportation policy."

A condition for the merger provides Milwaukee with rights over the present Monon line from its connection at Bedford, Ind., to the end of the Monon line at New Albany, Ind. Also, Milwaukee would be allowed to buy from L&N the Monon's interest in the Kentucky & Indiana Terminal and be able to use K&IT track from New Albany to Louisville. At Youngtown Yard in Louisville, Milwaukee could join Southern.

The Milwaukee-Southern service, Hopkins says, "would help maintain a competitive balance on traffic to and from the Southeast through the Chicago gateway and would not appear to divert any substantial traffic from the Monon."

The merger would join the 5,800-mile L&N and the 512-mile Monon. All Monon trackage is in Indiana. The Monon enters Chicago via the Chicago & Western Indiana from Hammond, Ind. L&N already has a direct route into Chicago via the former Chicago & Eastern Illinois line from Evansville, Ind. L&N bought that line in March 1968. Financial terms for the L&N-Monon merger would include full assumption by L&N of all Monon liabilities and obligations. L&N is controlled by Seaboard Coast Line, which owns 823,427 shares of L&N common stock, or 33.2% of shares outstanding on Dec. 31, 1968.

A good many people took issue last year with our underwriting operation. And got $5.1 billion for the challenge.

Despite tight money in 1969, Halsey, Stuart managed or co-managed new issues totaling $2.4 billion for industrial corporations, public utilities, and railroads. And we maintained our strong position in the tax-exempt markets by handling new issues totaling $2.2 billion for states, municipalities, and public authorities. Plus 12 Canadian issues for $1/2 billion.

Our financial specialists provided consulting service, negotiated financing, and direct placement. And distribution was effectively implemented through 18 offices in the strategic money markets.

For many years, we've been the leading manager or co-manager among investment dealers in the tax-exempt bond markets. And we've always been a force in the taxable bond markets. In addition, we handled a variety of common and preferred stock offerings, conditional sales contracts, and convertible securities.

If you need to raise capital for expansion or growth, challenge Halsey, Stuart. For corporate financing, call John B. Pelling in Chicago at 312 782-3900 or Edward V. Milholland Jr. in New York at 212 944-4400. And for tax-exempt financing, call Frank F. Martin in New York at 212 944-4400.

Every week, Halsey, Stuart publishes "Money Market Comments," a penetrating study of the current scene by economist Arnold C. Schumacher. For your free copy of his current report, fill in and mail this coupon.

Name_____

Address_____

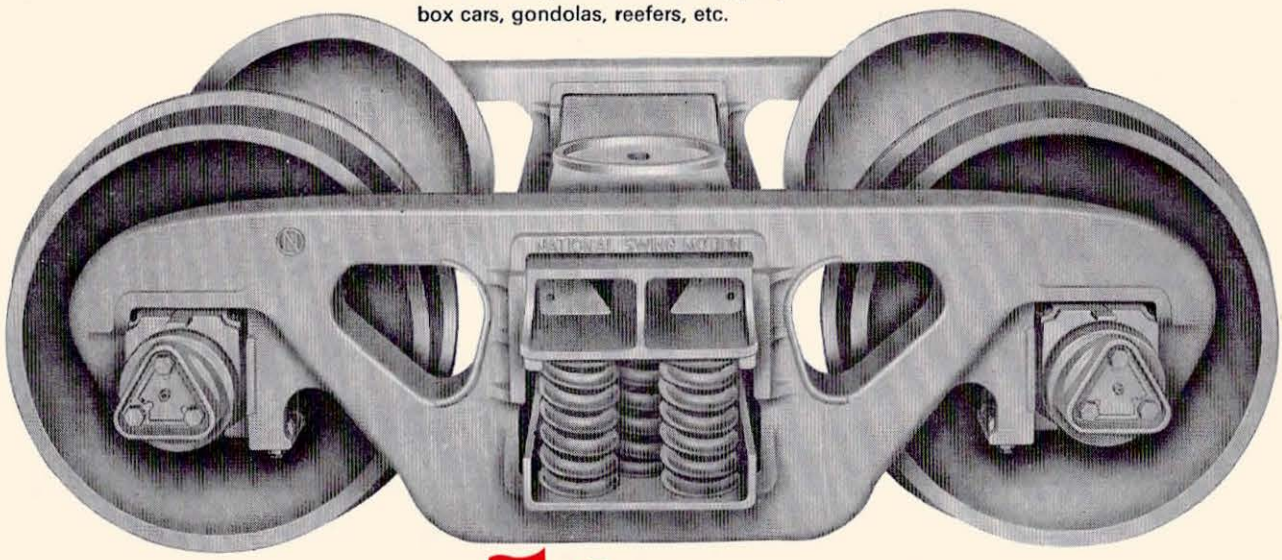
_____

HALSEY, STUART & CO. INC.

123 S. LaSalle Street, Chicago • 30 Broad Street, New York • and other Principal Cities

National introduces the High Speed Truck of the 70's

6 x 11 size shown. Also available soon
6½ x 12 design for 100-ton hoppers,
box cars, gondolas, reefers, etc.



National Swing Motion Truck

If all your freight car wheels were new — and remained new — you wouldn't need National Swing Motion Trucks.

Unfortunately, only about the first 10 percent of the life of a wheel can be considered "new wheel" conditions. That means that for about 90 percent of the life of your wheels your freight cars are restricted to a critical speed of *about 55 mph or less.* Exceeding this slow critical speed leads to hunting . . . to extreme wear . . . to risk of derailments. And perhaps most important of all — it also causes damage to cars and lading from an uncontrolled ride. For the first time, lightly loaded cars (up to about 50% load) now ride as well as fully loaded cars.

National's revolutionary Swing Motion Truck design, using standard adapters and conventional roller bearings, positively prevents unstable hunting at speeds *up to and exceeding 93 mph.* And the new National Swing Motion Truck does it with either light or loaded cars . . . with either brand-new or worn wheels.

With few exceptions, National Swing Motion Trucks provide significantly better car roll protection than other antiroll devices.

The net result? Railroads can now offer shippers faster delivery and less lading damage. At the same time, dangerous and time-costly derailments from an unstable ride become a thing of the past. And too, maintenance costs plummet through reduced wear on wheel flanges and treads, and on adapters and running gear in general.

National practically wrote the book on railroad couplers. Now we're ushering in a new era in safe, high-speed freight car trucks for the 70's with the National Swing Motion Truck.

NATIONAL CASTINGS DIVISION
Midland-Ross Corporation

GENERAL OFFICES: South Dock Street, Sharon, Pa., 16146.
SALES OFFICES: Chicago, Ill. • Philadelphia, Pa. • Richmond, Va. • St. Louis, Mo. • San Francisco, Cal. • Cleveland, Ohio.

Circle 8 on coupon page 40

A-4650

KOPPERS' R. H. DEVINE DISCUSSES

Supply & demand in the wood

The question is a simple one: Are wood crossties being produced in sufficient quantity to meet the needs of the railroads?

The answer is not so simple, and the whole subject has come under considerable discussion over the past several years—including discussion by several railroad officers at the 1969 annual meeting of the Railway Tie Association (RA, Nov. 10, 1969, p. 26).

To get the viewpoint of the tie-producing industry, Railway Age Engineering Editor M. H. Dick interviewed R. H. Devine, assistant vice president, Forest Products Division of Koppers Co., Inc., and immediate past president of the Railway Tie Association. The questions, and answers, follow.

Q. What is the supply-demand situation with respect to wood crossties?

A. Crosstie demand has continued to increase substantially and rapidly. Understandably, the supply is developing more slowly. As a result, the current demand is somewhat ahead of supply. We believe that the demand-supply situation will draw into balance in 1970 in most areas.

Q. Were more wood ties ordered by railroads for 1969 delivery than in the year before?

A. Yes, substantially more.

Q. What were the figures for the two years?

A. Neither the Railway Tie Association nor any other organization with which I am familiar makes any attempt to gather total order figures. But I can offer this: The Railway Tie Association sample cross-section of the market demand and supply shows unfilled orders in 1969 increased about 25% over 1968. This increase represents an increase in orders and substantiates the premise of a jump in wood crosstie demand. It presents a temporary problem, and a real opportunity. We appreciate the opportunity and the challenge that it offers our industry. We will respond to this challenge as we have to other challenges over a very long period of years.

Q. Did tie-producing companies experience any difficulty in meeting the demand for wood crossties in 1969?

A. I would say that any industry experiencing a substantial increase in demand very likely runs into a lag in meeting the higher demands. In this respect, our industry has had comparable difficulties develop in meeting the increased demand for wood crossties in 1969. The extent of the problem varies some, by geographical areas.

Q. What conditions produced the difficulties?

A. As with other industries, the conditions resulting in supply problems are complex. They vary some from area to area. In general a couple of the problems are short supply of labor for this type of employment, and the amount of time required to obtain more sophisticated equipment to make necessary installations. There have also been instances in which railroads and suppliers have been somewhat slow in getting into a realistically competitive position price-wise with other forest products. But progress is being made in all these areas.

Q. Does it appear that these conditions can be corrected?

A. Yes, we believe that these conditions can be and are being corrected, by more realistic pricing and through improved planning for installations of highly-automated, heavy-investment, complete crosstie mills. This will increase the control of the tie supply that can be made available for our major railroad customers. There are other possibilities that may develop from the RTA-AAR research and development work as well as from R&D work by some RTA member companies.

Q. It is often said that because of the decline in the demand for crossties that occurred in the late 1950s and early 60s, some smaller tie producers went out of business. Is this correct?

A. Unfortunately, the highly undesirable extreme peaks and valleys in crosstie demand that have occurred from time to time have resulted in many of the smaller tie producers going out of the tie-supply business.

Q. Is this situation being corrected?

A. It is, through producers' working with the railroads in developing tie prices that permit improved competition with other forest products. This encourages remaining smaller tie producers to stay in the tie-supply field and also encourages some new producers to enter the field. However, there is no doubt that the tie supply received from smaller producers will have to be augmented substantially by crosstie production volumes that will be made available from the ever-increasing numbers of highly sophisticated supplier-owned mills.

Q. Have the higher prices now being paid for lumber generally had any effect on crosstie production?

A. Generally, the higher prices have had some effect on crosstie production. When, or if, this factor is ignored in crosstie pricing, obviously the effect is and will continue to be a reduction in crosstie supply. But, as I indicated, this is being combatted in our day-to-day handling of the tie-supply business.

Q. Projections are that total crosstie requirements will be substantially higher in 1970 than they were last year. Do you expect that the tie-producing industry will be able to meet the demand, and without material delays?

A. We in the Railway Tie Association agree that projections of total crosstie requirements will be substantially higher in 1970 and beyond, than they were

crosstie industry

in 1969. Actions taken during 1969 and before balance the supply-demand relationship in 1970. While many of the equipment requirements and installations necessary to improve the wood-tie supply are slowed up by equipment delivery delays, nevertheless, we expect the tie supply-demand relationship to improve in 1970 despite the anticipated added crosstie requirements.

Q. Some railroad men have said that the tie producers have failed to modernize their production methods.

A. Perhaps we in the wood-tie supply industry have fallen somewhat short in our communications with the railroads with respect to modernization of wood-tie production methods. To my knowledge, many if not all suggestions offered by railroads for modernization of our wood-tie production industry are and have been in effect to varying degrees. This condition existed prior to some suggestions being offered by railroaders during the recent annual meeting of the Railway Tie Association. I am hopeful that our communication in this respect has since improved so that the wood-tie-producing industry presents an image of what it is, as opposed to possibly what it was. Nevertheless, regardless of our apparent communications failure, we have been and are totally aware of our problems and opportunities. We have taken action accordingly. Obviously, such action includes modernization.

Q. Does the wood-tie-producing industry have plans for stepping up the production rate in case the demand for wood ties continues to increase?

A. The wood-tie-producing industry has no ceiling on its plans for developing the tie-production rate to meet anticipated future demands. Many modern, efficient and highly automated crosstie mills are being installed by our company and others. The modernization of our industry will be continued. I might say that we have every reason to expect the demand to continue its upward movement to a relatively high level. And probably it will hold at such a level for some time. We have every reason to believe that we will continue to solve our problems and continue to serve the railroad industry well—as we have, for the most part, over many years.

Q. In your opinion, is there anything railroads can do to help expedite crosstie deliveries?

A. All of us in the Railway Tie Association would hope that railroads and suppliers can find some means of preventing the wood crosstie demand from having such extreme peaks and valleys. Many railroads are attacking this real problem with careful planning of crosstie requirements. We would further hope that the future crosstie demands as to species, size and so forth completely recognize the realistic function of the crosstie, and minimize unnecessary obstacles to supply. There is and there will continue to be a constant need for the producers' income opportunities from other major forest products. Such products compete with crossties, and it appears unrealistic for ties to be put in a position of unnecessary disadvantage in this respect. I am sure that, working together, the railroads and wood-tie procurement people will develop answers to our day-to-day problems, permitting wood crossties to continue to provide the major service for railroads—as they have over the past 100 years or so.

Q. What research is being done to improve the performance of the wood tie?

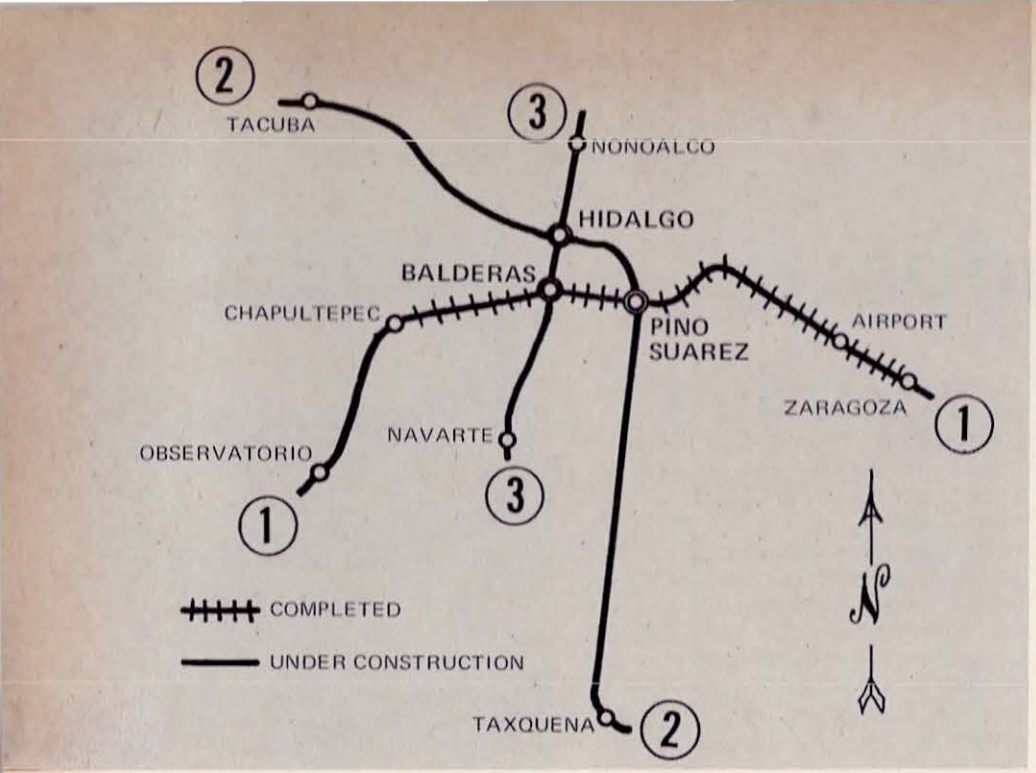
A. I am sure that you are familiar with the cooperative work being done by the AAR for the Railway Tie Association with respect to improving the performance, availability and cost of the wood-tie structure per track-mile. In addition to that research and development program, some of the Railway Tie Association member companies are carrying on their own research and development to improve the performance and reduce the installed cost of the wood tie.

Q. Have these efforts produced tangible results?

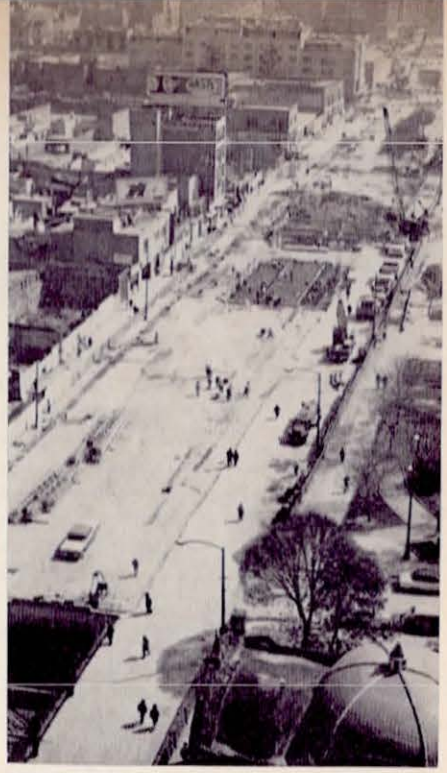
A. The RTA-AAR cooperative efforts should offer tangible results in the near future. Efforts of our company and other RTA member companies in private research and development work have resulted in many additional major railroad systems across the country having field tests now under way. Many other railroads will make further field-test installations. Accelerated laboratory tests have indicated that there is a real potential for saving the railroads a significant amount of money per track-mile in future track installations. We have every reason to believe that the field tests mentioned will confirm the laboratory test results.

Q. What are future plans?

A. Crosstie research and development plans will be carried on by the Railway Tie Association and by our company and other Railway Tie Association member companies. We have every interest in continuing to offer the railroads the best crossties for track construction. We have no plans for resting on our laurels. The railroad customers and the wood-tie supply industry do have some mutual supply problems at the moment. But these are not any different from those that other industries have from time to time. All information at hand demonstrates that there is more than an adequate amount of timber available for current and future crosstie requirements. There will be made available all the necessary sophisticated sawmill and handling equipment. We are putting together these factors with the necessary manpower, so that once again the end result will be that the wood crosstie industry will meet the cross-tie supply demand, now and in the future ■



MEXICO CITY SUBWAY is scheduled to be completed this year, but already officials are talking about the need to expand the system. The first segment went into operation last fall, and is being extended. Other two routes will be finished by Nov. 20.



CUT-AND-COVER method is being used in construction of Mexico City Metro. Slab is about to be put in place.

For Mexico's Metro, manana

Mexico intends to celebrate the anniversary of the beginning of the Mexican Revolution next fall with, among other things, the completion of a $336-million subway system in Mexico City.

The first third of the system went into operation last Sept. 5. It quickly reached a daily passenger load between 250,000 and 300,000. The remaining two-thirds of the system is scheduled for completion in November. The entire subway is expected to carry 1,800,000 passengers daily.

Each train running in the Metro consists of nine rubber-tired cars. A car can accommodate 32 sitting passengers and 132 standees. This gives a nine-car train with a capacity to carry 1,476 passengers.

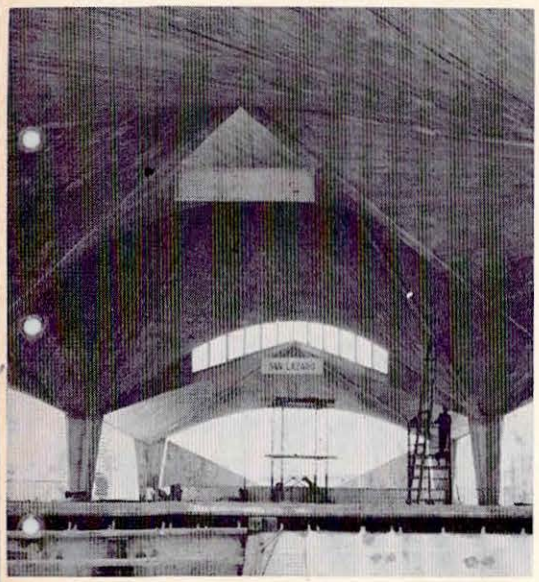
The car at each end of a train is equipped with power units and control cabins for the motormen. The two cars next to each end-car have motors but no cabins. The three other cars have neither motors nor cabins. The cars are being supplied from France, which is financing two-thirds of the cost of the project.

Maximum speed of the trains is 50 mph; average speed, including station stops, is 20 mph. Time spent at stations runs between 17 and 20 seconds. Trains run at four-minute intervals during rush hour.

• **Three-route network.** The three routes making up the 22.6-mile system form a pattern resembling a crude swastika. Route 1, partially in operation, is an east-west line extending from near the city's airport on the east to Chapultepec Park on the west. But already being built is an extension which will carry the line to a terminus at Avenida Observatorio. It will then be 10.3 miles long and have 18 stations.

Route 2 will be the longest of the three lines, 11.3 miles. From its southern terminus at Taxquena it will

MOVING ON TIME, Metro officials were ready for official opening of first route last fall. System promises to alleviate



CONCRETE EGGSHELLS is phrase used to describe type of station construction being used on street level facilities.

is today

extend almost directly north, intersecting Route 1. A short distance north of the intersection, Route 2 will make a sharp turn to the west and extend into the northwestern part of the city. It will have 21 stations. For almost the entire distance from the intersection with Route 1 to its southern terminus, Route 2 will run on the surface.

Route 3 will be the shortest line, 4.6 miles long. It will run almost directly north and south, somewhat west of the southerly leg of Route 2, and will cross both the other routes. It will have nine stations.

● **To alleviate congestion.** With this rapid-transit network, the Mexicans hope to alleviate what they call the "grievous and growing problems of urban transportation" afflicting the city. People who visit Mexico City agree that the traffic congestion in the city's streets, many of them narrow and winding, is severe. Closely spaced cars, buses, street cars and trucks move at a speed that startles even those accustomed to traffic conditions in the biggest U. S. cities.

The underground network being built to overcome this problem is laid-out to serve the areas of heaviest movement and greatest human concentration. Many stations are located near such facilities as medical centers, cathedrals and public squares. The stations have features in common. But each one is designed to serve the requirements of its location. The design depends largely on whether it is a terminal station, a connecting station, a transfer station, or a combined station.

● **Two means of access.** In some locations, especially where there is ample space at street level, the stations give direct access to the platforms from the surface. In others, the boarding platforms must be located underground, moving stairways are frequently used. In all stations the architecture is striking; modern murals and sculpture are used for interior decoration. At several locations where the main facilities are at the street level, the Mexicans are making use of a type of roof construction they call "concrete eggshells," which denotes thin concrete sections.

Using the cut-and-cover method, the subway builders are constructing a double-track tunnel rectangular in cross section with concrete walls, floor and roof. Because much of the city is built over the ruins of ancient civilizations, it is not surprising that excavators are finding artifacts, human skeletons and other signs of those civilizations. To preserve these artifacts, great care must be taken in exposing them—but this doesn't seem to have slowed the construction work materially.

● **Three sets of "rails."** Track construction includes the three sets of "rails" typical of pneumatic-tired transit systems. In the Mexican system the main rubber tires run on the top flanges of steel H-sections. In addition, rubber tires, mounted horizontally on each side of the train, bear against steel angles positioned on each side of the track; and flanged-steel wheels operate on 80-pound T-section rails. The steel wheels are used for guidance when passing through switches or when there is loss of pressure in the pneumatic tires.

● **Crossties are wood.** Apparently, Mexican engineers have experienced difficulty in obtaining wood crossties of the species they felt was necessary: they imported 51,000 crossties from Africa for use in building Route 1. To meet later needs, Metro engineers worked jointly with the National Institute of Forestry. The outcome of this effort is a plan to obtain 75,000 ties from forests southeast of Mexico for Routes 2 and 3.

To allow for leveling of the track in case of changes in the floor of the tunnel, the Mexicans selected a ballasted track using crushed-stone ballast. Here again, specifications for ballast were so rigid that finding a supply of suitable rock was not easy. But a deposit of basaltic rock meeting the specifications was finally located.

● **Big time-saver.** What the subway will mean in terms of time saving for people moving across the city is given by an example: The time required to travel by automobile between Zaragoza station at the east end of Route 1 and Chapultepec station, the original westerly terminus for that route, is reported to be at least 45 minutes; travelers moving via the Metro can make the same distance in 23 minutes.

Control of train operations for the entire system is centralized. Equipment at the control point includes control boards which give the locations of trains, distance between trains and the indications given by wayside signals. Traffic control is carried out by programming machines with faculties for making precise and rapid calculations; thus, operation of the system is largely automatic. The control system is integrated by a complex telecommunication network.

● **Shop facilities.** Main shops for the Metro are on a tract of about 50 acres near the east end of Route 1. Running maintenance and reconstruction of cars will be carried out there. Other facilities include a railbending and processing shop and a tie-processing shop, along with supporting facilities for the main shop.

Construction work on Route 1 began June 19, 1967. Exactly two years later, the final official operation of a test train was made.

It is expected the Route 1 extension will be completed in the spring. Routes 2 and 3 are scheduled to go into operation Nov. 20.

Now, the Mexicans are talking as if the subway system, as presently projected, is only a starter. And this is understandable. By 1980 it is expected that the population of Mexico City will reach 11.6 million. An additional two subway routes will be necessary. ■

street traffic congestion.

Cities advised: Get ready now for transit aid

City officials who think Federal money is all they need for building a transit system may be interested in the views of a former mayor who thinks differently.

The man is J. D. Braman, whose title now is Assistant Secretary for Environment and Urban Systems, U.S. Department of Transportation. His first observation is that any law providing Government aid for transit would be "only a starter."

"Cities have to be ready to use Federal funds when they become available," says the former Seattle mayor. "Provision of such aid does not by itself assure a transit system. The provision, in fact, is where the Federal part ends and the community part begins."

In his view, a city's preparedness must include several elements.

—Citizens must be convinced of the need for transit so that the city can obtain authority to make plans and to raise its share of costs.

—There must be a plan for the use of the entire area's land *before* there is a plan for transit routes.

—There must be a method for financing the *operation* of transit as well as for its construction.

If these elements are ignored, or pursued just in part, Federal funding—under the Administration's proposed $10-billion transit-aid program, or any similar program—will hold little value for a city, Braman warned, in an interview with Railway Age.

The consequences of a superficial approach to transit could be disastrous, the DOT official says. "Transportation can serve as a positive force in a community, if it is used wisely. Used unwisely, it can have a destructive impact on the environment, as we have seen reflected by public concern over the influence of major highways as they pass through and affect many of our cities.

"In fact, the time may have come when we shall have to consider, even though it would be distasteful, calling a halt to the construction of major highways in some cities until those cities have a chance to take advantage of the opportunities for genuine full-scale regional land and transportation planning."

● **First, get support.** The first move, then, is to win local support so that a city will have local plans and funds ready when Federal money becomes available. Remembering how close the losing campaign for such support was in Seattle, Braman has strong thoughts on what a city must do.

"Obviously, not everybody will get in on the $10 billion. The ones who do will be the ones who are ready to use it."

—DOT's J. D. Braman

"The main thing is not to take for granted that everybody is convinced of the need," Braman says. Seattle officials were aware of this. They put on a "dramatic and effective" campaign. However, Braman adds, "many who indicated tentative support were not personally committed to the program." Because of that, transit opponents were able to convince people that lack of a Federal commitment would mean that a vote in favor of transit would have no value.

That argument, Braman says, "was effective enough to pull us down 13% from an indicated 64% one month before the election." However, transit still got 51% of a necessary 60% affirmative vote in Seattle's 1968 referendum.

In Seattle there was the hope of Federal funds equal to two-thirds of the cost of transit construction. But even where a smaller Federal share would have been involved, such as in Atlanta, the argument that "you can't finish without a Federal promise" was effective, Braman says. In Atlanta, a 50% vote was needed, but only 40% could be obtained.

In addition to public awareness of the need for transit, awareness of what citizens actually are voting for must also be promoted, Braman says. That is, citizens must realize that a favorable vote on transit would give a city only the authority to set up a program. It would not give immediate spending power.

It is, however, precisely such authority that a city needs, to be ready for Government help. "That authority," Braman emphasizes, "must be there. Obviously, not everybody will get in on the $10 billion. The ones who do will be the ones who are ready to use it.

"I urge every city to try to get a referendum over with as soon as they can. The ones who do are the ones that are going to be first in.

"It is highly important that every city get its people to understand that they should give their officials the authority that will be needed. Time has run out everywhere. But it still takes 10 years to get a system operating."

● **Use of land must be planned.** The first step toward gaining public support, Braman says, is the local development of a plan for the use of all land in the entire area of the city and its suburbs.

"You don't build roads until their use is determined. Why should it be different with transit? I personally believe that you must have a land-use plan as the very first step. You need to know where public transit should be placed, and that means first knowing where the people will be, especially outside the perimeter of the old town. People will locate where they can move around. You've simply got to have a plan for building transportation before you've got the crowd."

If cities have no land-use plans, Braman warns, transportation chaos in urban areas will just perpetuate itself. "Cities must prevent development along inadequate roads, with the subsequent

need to build makeup roads. Each community has the responsibility of developing its own plan for the use of its land. Only then can it superimpose a transit plan that will bring the land-use plan into being."

● **Remember operating costs.** Braman adds a third element to preparedness—concern for the cost of transit operations, a concern that can be overlooked in the rush for construction.

"Transit will probably never carry its own weight for capital costs, let alone operating costs," says, Braman. A city must take it for granted that there will be an operating deficit. The Federal program does not contemplate operating costs, and it probably never will. Federal money should just help to plan and build systems."

So where does a city look for operating aid? Braman's answer brings in a third layer of government, the state. He suggests as one possible solution a transit trust fund—perhaps derived from auto excise taxes—to relieve the burden on local property owners. The state of Washington already is considering such a tax.

"I think it's very important," Braman says, "to have that third partner in there. And I think that every state with urban transit problems is going to have to have some kind of program comparable to the state of Washington's."

The climate for such programs, he adds, may be improving. "With increasing concern over air pollution, we get an increasingly better chance of getting these things done in state legislatures."

Braman refers to a statement in President Nixon's State of the Union message that said: "The automobile is our worst polluter of the air." Braman says the automobile does some of its greatest damage during rush-hours on clogged freeways. The start-and-stop rush-hour traffic generates "far greater levels of pollution" than smooth traffic on a highway. If ways can be found to make rush-hour movements constant, pollution in urban areas could be cut by as much as 40%, Braman says.

● **Chance for Administration bill.** Braman sees a good chance for passage of the Administration's public transportation bill, though he acknowledges that there may be some problems in the House. "I think we'll make it," he says. "People everywhere are concerned."

In the House, Braman says, "the thinking people who have promoted highways in the past don't oppose us." But opposition may come, he says, from the state highway people who "are afraid we may destroy their empires. They would like to keep building the way they have in the past as long as the trust fund provides the money." ■

LUTHER MILLER

AS THE EDITOR SEES IT

PENN CENTRAL STRUCK BACK last week. Taunted by columnist Art Buchwald (who imagined astronaut/rail spokesman Wally Schirra in a situation that produced dialogue like: "This is Penn Central Control. We are 87 minutes late into takeoff and holding. How do you feel, Wally?" "I'm freezing my tail off. Where's the train?" "It's in New Haven and holding, Wally"); attacked by Business Week for extending an "invitation to government takeover" and thereby giving not only railroads but "all business a black eye"; given the once-over-brightly treatment by Time, which somehow managed to tie Penn Central's commuter problems to the fact that a Metroliner engineman earns $111 per round trip—assailed on all sides, Penn Central struck back.

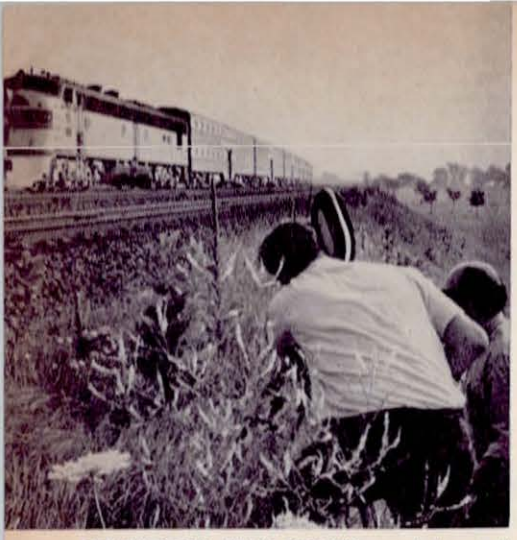
GENTLY BUT FIRMLY, in full-page newspaper ads, PC told its side of the story. The credibility gap was appreciably narrowed at the outset. PC started out by saying, in big, very black type: "You say our commuter service is bad. We agree." Having acknowledged that its patrons had good reason to complain about its service, PC then asked, also in big type: "What can be done to improve it?"

THE SOLUTION, PC said, "lies in a partnership between government and private enterprise. There is no better transportation bargain for taxpayers than to upgrade and modernized rail commuter systems." In far more impressive detail than can be summarized here, PC then went on to describe efforts that are being made toward this goal.

REPLYING SPECIFICALLY to the charge that it has deliberatly cut maintenance budgets either to drive commuters away or government ownership in, PC published some figures that Business Week and Time either didn't possess or couldn't find room for: The road spent $42.8 million on New York-area commuter maintenance in 1969. It has upped this figure to $45 million for 1970.

IF ALL THIS IS TRUE, why does PC have a blacker image than other passenger railroads? PC didn't pose this question in its ads—but it did offer what could be an answer: PC operates 35% of all U.S. rail passenger service, 64% of all service in the East—at a loss of $100 million a year.

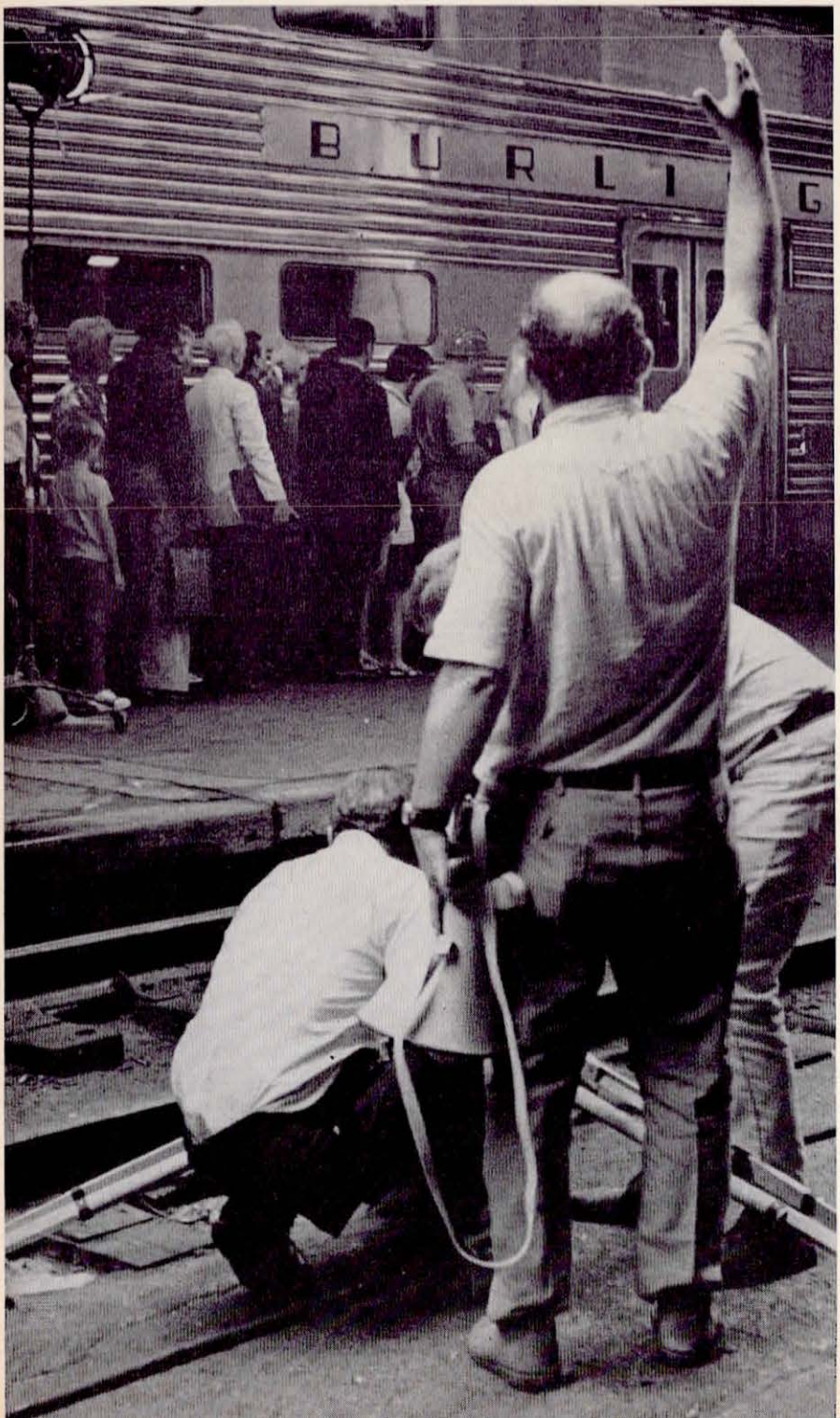
PC'S TROUBLES ARE REAL. They aren't easy to explain away. But it was time the other half of the story was told. PC told it well.



TELEVISION FILM CREWS went to work on CB&Q commercials both in Union Station (below) with crowds, and on line (above) as double-deckers sped by.

Burlington TV spots

Why spend $300,000 to advertise commuter trains that lose $500,000 a year? Burlington's Al Rung has some convincing answers.



Question: "Where can you find an ancient mill, within strolling distance of a modern super market . . . a glen of Ginkgo trees just down the road from . . . an electronics research lab?"

Answer: "Switzerland?"

Question: "Where can you see polo ponies . . . western ponies . . . and striped ponies, all in the same afternoon?"

Answer: "Zanzibar?"

Question: "Where can you find folk-singing inside a railroad station . . . and a flower garden outside?"

Answer: "Hollywood?"

That's three misses. As thousands of television watchers in the Chicago area now know, the answer to all those questions is: "The Land of the Burlingtons."

And what is the Land of the Burlingtons? That's where the music picks up and the camera cuts to scenes of happy people riding Burlington commuter trains.

● **An ad program takes shape.** Commuter-service advertising isn't unique (unusual, maybe, but not unique). Chicago & North Western for instance has been a consistent user of radio spots to promote its suburban operations—and Burlington people cheerfully concede that C&NW has done a great job.

What stands out about Burlington's program is its heavy use of television—and, perhaps, the size of the budget which the Q's management approved. Over a 13-week commercial-run period, Burlington had an outlay of approximately $200,000 for television time. Production added about $60,000 to the bill, and such items as print ads and posters pushed the total to the $300,000 mark.

Why spend this kind of money in the way it was spent? Burlington's director of public relations and advertising, A.M. Rung, can reel off a long list of "why" factors.

One is the fact that Burlington and the communities it serves are looking into formation of a mass transit district—and the railroad, naturally, wanted to develop and solidify a feeling of oneness. Another, related, was the fact that Burlington did originate the operation of high-quality, double-deck, air-conditioned service for Chicagoland and has maintained its quality. Still another involved Burlington Northern merger—

win high rating in Chicago

and the presumption that the Q's Chicago service will always be identified as "Burlington."

● **Why television?** The choice of television as the primary medium could also be justified. Television has a mass audience—Burlington riders, and off-line people whom the railroad still wanted to reach from a corporate-identity standpoint. Television offered a sense-appeal that neither radio nor print could match. Television provided an opportunity for the use of humor, but humor closely related to the community/railroad unity which Burlington wanted to promote.

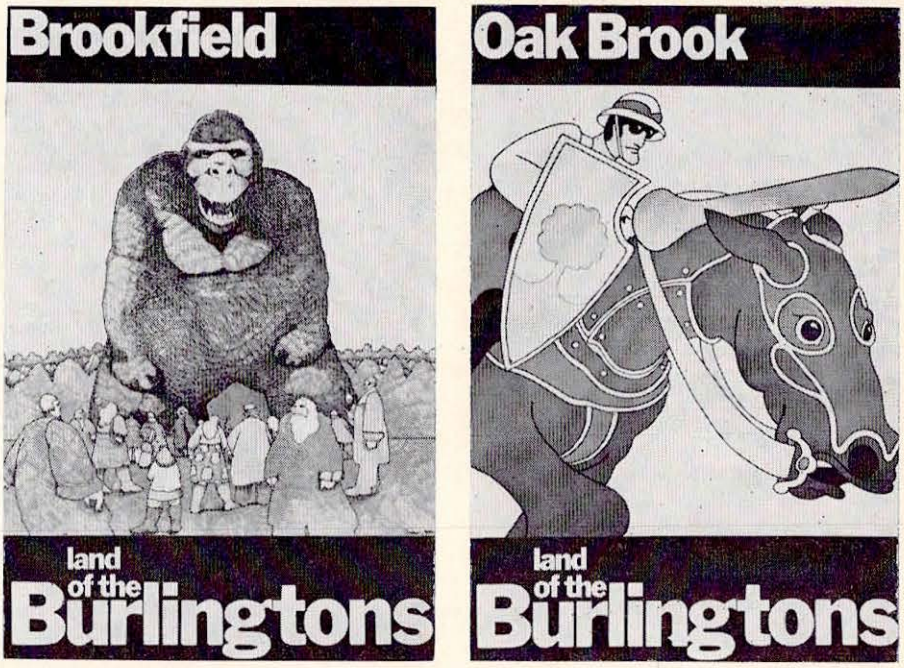
As the commercials put it: "The Land of the Burlingtons . . . where the people and the railroads have worked together as partners . . . to create one of the world's most exciting places to live or visit. Some people wonder which Burlingtons came first . . . the trains or the people. Actually, they've grown up as partners. And they're going to keep working together . . . as partners."

Working with its agency — Tatham-Laird & Kudner, Inc.—Burlington developed a series of three 60-second television spots. Then, both the railroad and the creative people at the agency backed off—to take a week to think, to decide if "this is the very best we can do, keeping in mind that we would be in competition with all sorts of big budgets on the tube."

● **"Come to the Land of the Q."** The agency came back with the Land-of-the-Burlingtons theme — maintaining the growing-together idea and taking off from there in a tongue-in-cheek application of travel advertising to the commuter business. Travel posters were prepared, to supplement the television theme.

Burlington ran for 13 weeks on the 10 p.m. news programs on Chicago's three network stations and its major local station. Print ads were taken in suburban papers, in the metropolitan dailies and in regional editions of Time, Life, Newsweek. Occasionally, Burlington appeared with spots on the "Today" and "Tonight" television programs.

Meantime, the travel posters found a ready market. The economics weren't so good—the four-color sheets cost Burlington a lot more per copy than the $1 they sold for (or $5 for the complete set of eight). But the initial run of 500 of each poster went fast.



POSTERS SUPPLEMENT TV CAMPAIGN

Posters produced by Burlington and its agency promoted a community as they promoted the railroad—each stressing an on-line community's feature attraction.

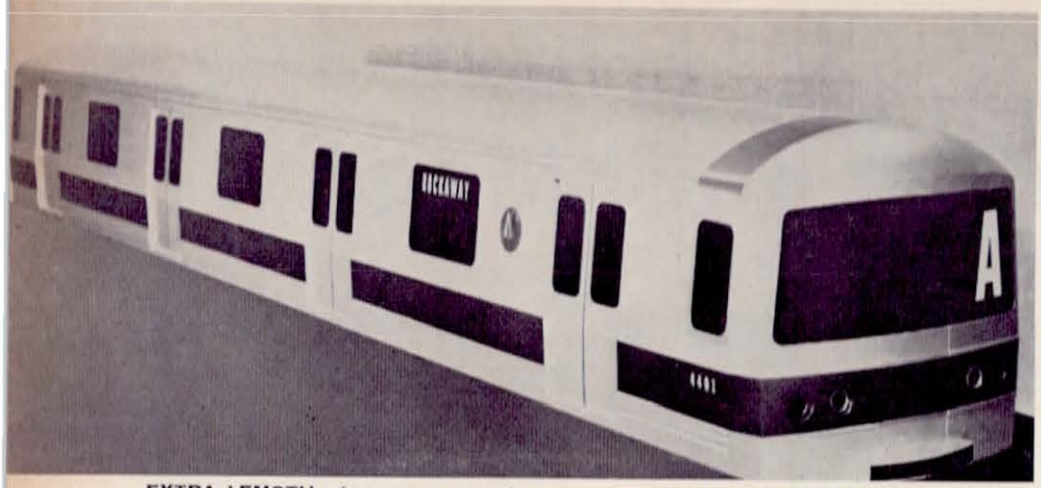
What kind of reaction did Burlington get to its campaign? "When you do almost any kind of advertising," Al Rung says, "you get a few letters asking 'What the heck are you people trying to do,' and so forth. On this campaign, we didn't get a single comment that you could even classify as a crank letter. The only complaint came from a few of our communities that we didn't cover with the poster series—and we're going to take care of that this year."

So what has happened to the commuter business? Well, it's losing money at a rate of about $500,000 a year, out-of-pocket. Patronage has been increasing but costs still outrun revenues. Burlington has a fare-increase proposal pending (averaging 5% on monthly tickets with a bigger percentage increase for less regular riders), and an Illinois Commerce Commission hearing was scheduled for Jan. 30. Meantime, the mass transit district proposal also seems to be moving ahead. Burlington people met Jan. 29 with officials of on-line and close-to-line communities to start new studies.

● **Corporate or commuter?** Rung makes a couple of additional points. One is that Burlington went into the ad program regarding it as a corporate venture, not just a commuter-service promotion. Chicago, he notes, is the Q's biggest commercial center. It is also a communications center—"a place where we reach the movers, the shakers." The ad expense was charged to the general corporate advertising budget—not to suburban service.

Burlington may or may not go back into the ad market this year. The decision will depend upon several things, including the Supreme Court's ruling on Burlington Northern merger and the need to concentrate on a BN program (see page 38).

But Rung's people will follow through on the other travel posters yet to be printed. And they will have one new twist coming up: If you spot somebody carrying a suitcase with travel stickers that read Nassau, Berlin, San Juan, Tokyo, Paris—and Naperville, in the Land of the Burlingtons. . . . You'll know where he's been—and which railroad he rides. ■



EXTRA LENGTH of new cars can be accommodated in tunnels with minor changes.

NYCTA car design is team effort

"In-house" group will be living with its decisions.

SEATING will be provided for greater proportion of passenger load in R-44s.

A year from now St. Louis Car is scheduled to begin deliveries of the longest subway cars ever ordered by the New York City Transit Authority.

The prospect of long cars may have seemed of little significance to New York City riders last month as they queued in long lines at token booths following a fare increase and were confronted with lengthy service delays as the city shivered through a protracted cold spell. But the Metropolitan Transit Authority, the state agency which operates both NYCTA and the Long Island Rail Road, indicated better days are ahead and cited the new, longer equipment as a harbinger of other improvements.

● **Long and short of it.** The decision to go for a new and longer car configuration was no snap judgment. Chairman William J. Ronan of MTA has stressed that "the new design, developed at the instigation of MTA, is the greatest advance made in subway cars for New York City in more than sixty years." The first 240 of the new 75-footers are to roll out of the St. Louis shop in 1971 and 1972 for service on NYCTA's B Division—the former (and now merged) IND and BMT lines.

The car design is the product of an "in house" team effort—a project organized by W. L. Schlager who headed NYCTA's operations and maintenance before being named president of LIRR last year. NYCTA's car design effort was headed by Harold J. McLaughlin, assistant general superintendent-transportation, and included representatives of cars and shops, track and structures, signal and communications, operating, and security departments. "This was a group," observes McLaughlin, "that was going to have to live with its decisions."

● **Time to decide.** The group was given some five weeks to prepare specifications for the new cars. It was instructed that the equipment would have to run on existing lines with the capability off taking full advantage of NYCTA's projected extensions, such as the Second Avenue Subway. Because of the lengths of existing stations, a train could be no longer than 600 feet.

The design team was to give particular attention to the following:

—Car performance;

—Passenger comfort;

—Potential for automated operation;

—Communication facilities including public address system, train intercom, and two-way radio;

—Car size with capability for operation on IND and BMT lines.

The restrictions of existing facilities, according to McLaughlin, were the principal reason that these could not be the totally new "super-subway cars" envisioned by some when the project started. Even the proposal for capability for eventual automatic train operation (ATO) on projected routes had hard sledding over the past few weeks as labor and others protested the extra expenditures—ATO won. Initially the new cars will operate over existing lines under normal manual control.

The design group checked the specifications for cars for Bay Area Rapid Transit (ordered last year) and Massachusetts Bay Transit Authority (being delivered). It visited facilities of Delaware River Port Authority, Cleveland Transit System and Toronto Transit Commission. At the same time, work was proceeding with three test vehicles which would probe NYCTA tunnels to determine if longer cars could be used in New York subways.

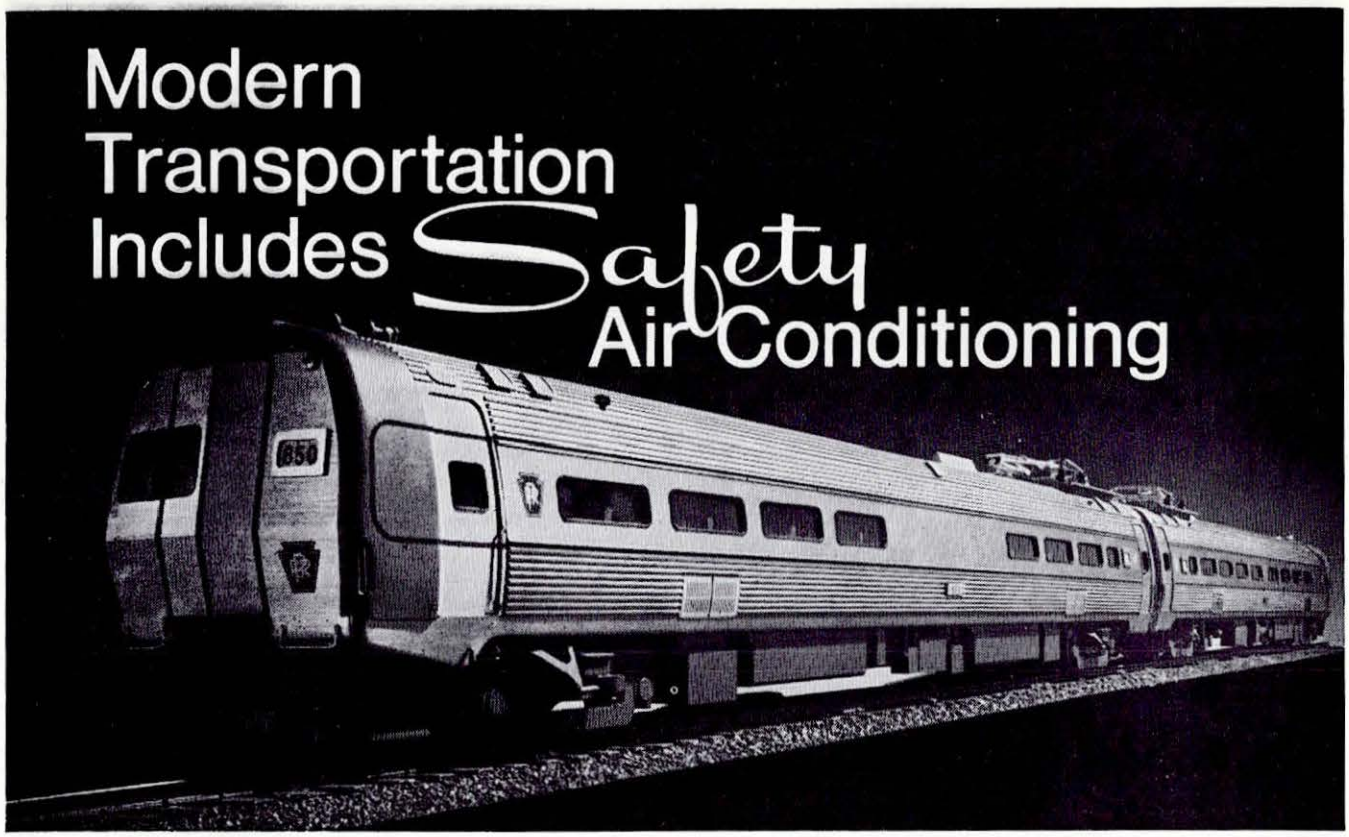
The longer car was seen to have several advantages. Existing B Division cars are 60 feet in length, although a 67-foot car had been operated on one of the lines. If, for instance, a 75-foot car could be used, a train of eight such cars would have exactly the same length as ten of the 60-foot cars—the 600-foot dimension set by station limitations. An eight-car train would have somewhat higher passenger capacity and would involve four fewer trucks, 16 fewer wheels, eight fewer axles and motors, and two less controllers.

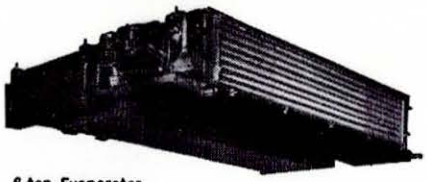
● **It will fit.** To see how a longer car would be accommodated, an NYCTA shop cut a 60-foot car in half and added a new section at the center. At off hours, it was operated along the system to make sure tunnel clearances would be adequate. Few places were found where any major reconstruction of tunnnel walls might be required. But there were places where cable ducts and signal boxes would have to be relocated. The major change would be extension of third-rail gaps.

With the decision on car length, many

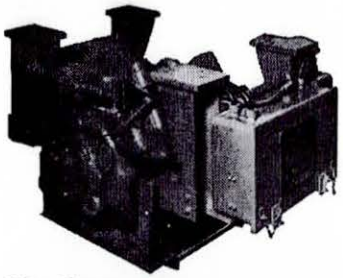
(Continued on page 33)

Modern Transportation Includes Safety Air Conditioning

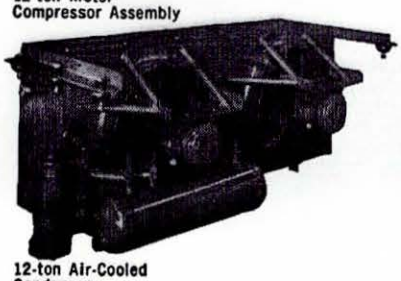




6-ton Evaporator and Blower Assembly, overhead unit



12-ton Motor-Compressor Assembly

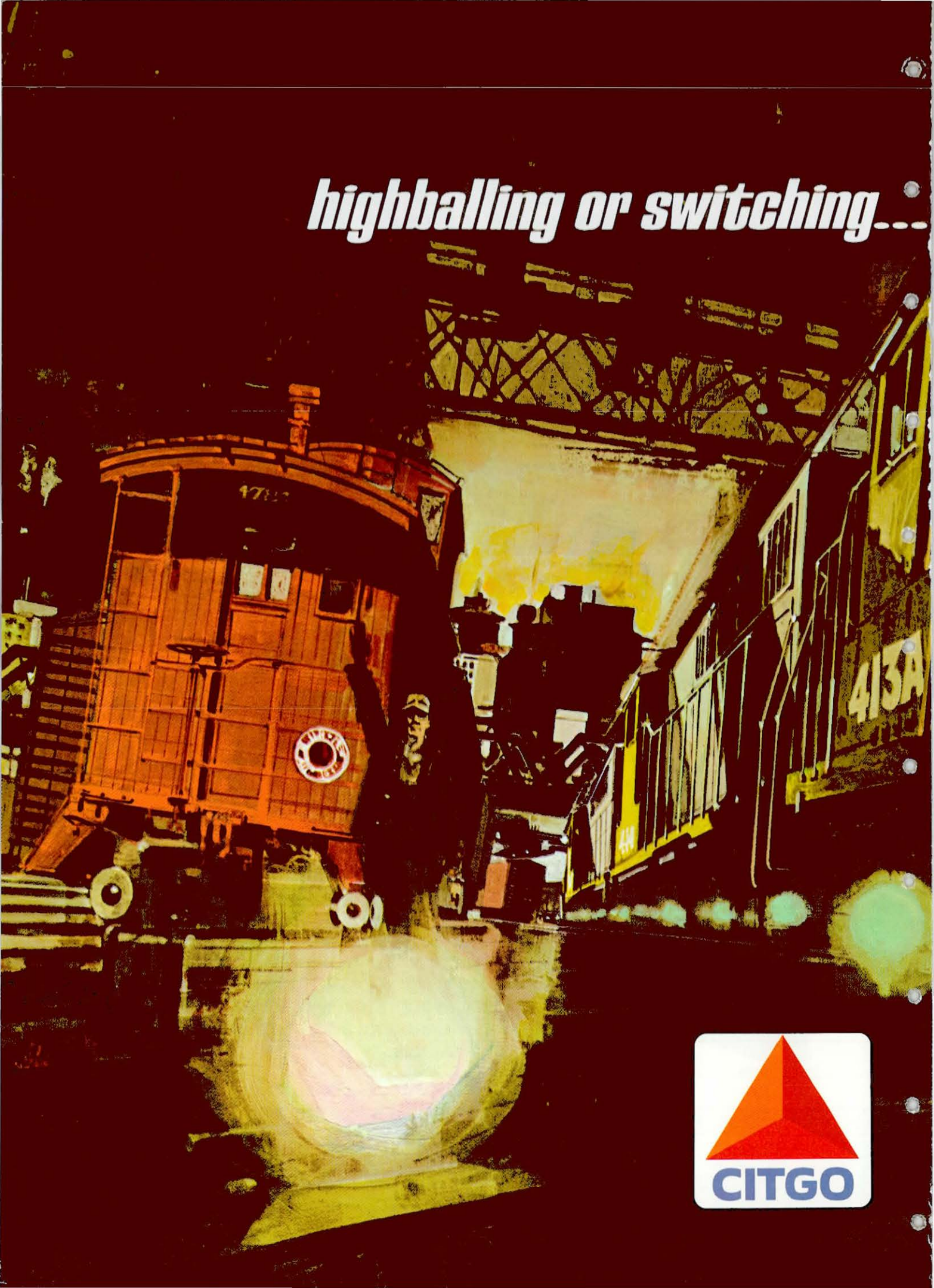


12-ton Air-Cooled Condenser

These units are part of the **Safety** Equipment which provides the air-conditioning for cars on the new high-speed Northeast Corridor trains. A motor-compressor assembly, air-cooled condenser unit, and a motor starter and control panel are each separately mounted under each car. Two six-ton evaporator and blower assemblies are installed above the ceiling, one at each end of the car.

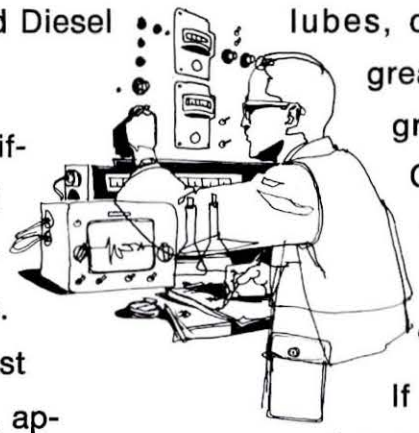
Safety ELECTRICAL EQUIPMENT CORP.

NEW YORK · CHICAGO · PHILADELPHIA · ST. LOUIS · SAN FRANCISCO · NEW HAVEN · MONTREAL
1187 DIXWELL AVE., NEW HAVEN, CONN. 06514 TEL. 203: 865-3171


highballing or switching...
413A
CITGO

CITGO Diesel Engine Oil *exceeds the need!*

With today's increased horsepower in both road and switcher units, it becomes extremely important to keep those locomotives working. Whatever job they are doing, they work harder and run longer between overhauls with CITGO Railroad Diesel Engine Oils.



Cities Service produces four different grades of superior diesel engine oil, each one custom-tailored to specific applications. Each is compounded of highest quality base stocks and tested, approved additives. Each is designed to hold combustion products and contaminants in fine dispersion, to prevent deposit buildups and keep the oil flowing freely through filters.

In addition to these widely-used diesel engine oils, Cities Service also produces the finest journal oils, air filter oils, gear lubes, curve grease, center plate grease, bearing grease, cylinder grease and filter film. Every CITGO Railroad Lubricant is the product of scientific research, backed by 50 years of experience.

If you're looking for lubricants that *exceed the need* . . . lubricants custom-designed for railroad use . . . look for the CITGO brand!

CITIES SERVICE OIL COMPANY

(918) 582-1531, Box 300, Tulsa, Oklahoma 74102

REGION CONSUMER SALES OFFICES

(201) 567-7300, Box 1264, Englewood Cliffs, N.J. 07632
(404) 873-1831, P.O. Box 3258, Atlanta, Ga. 30302
(301) 825-8800, Towson Plaza, 760 Fairmount Ave. Towson, Md. 21204
(617) 848-1100, 10 Forbes Road, Braintree, Mass. 02184
(312) 325-4400, 1 Salt Creek Lane, Hinsdale, Ill. 60521

CITGO—TRADEMARK CITIES SERVICE OIL CO., SUBSIDIARY OF CITIES SERVICE CO.

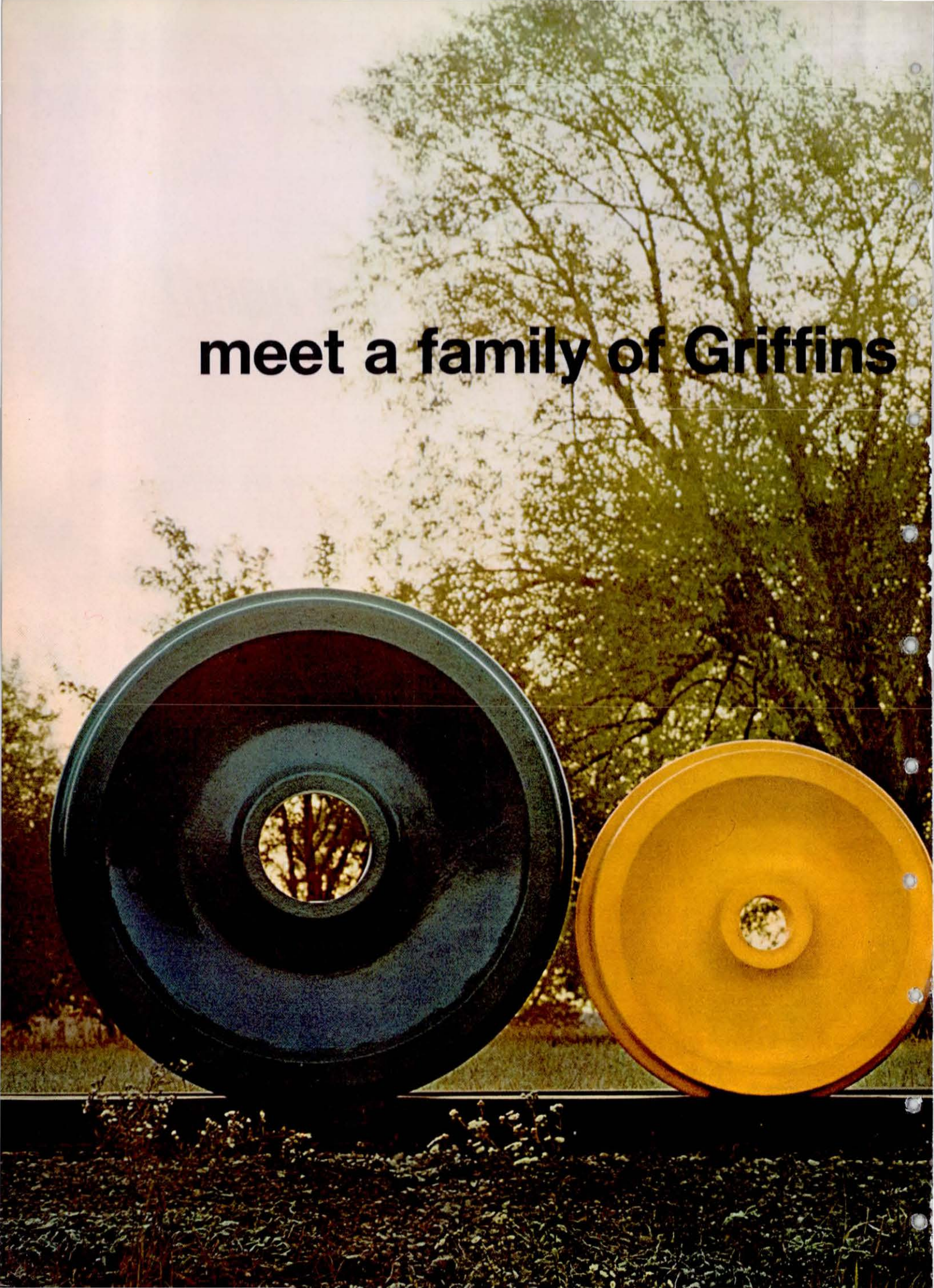
CITIES SERVICE OIL COMPANY
(918) 582-1531, Box 300, Tulsa, Oklahoma 74102

I'd like more information on:

☐ CITGO RAILROAD DIESEL ENGINE OILS
☐ ALL OTHER CITGO RAILROAD PRODUCTS

NAME_____
TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ STATE_____ ZIP_____

☐ Please have your representative call me.


meet a family of Griffins

From left to right: Our family of Griffins. Together, they make up the finest line of steel wheels offered today.

All are pressure poured by the exclusive Griffin process in modern plants, geographically located to give immediate service. The wheels are made in permanent graphite molds, and this virtually eliminates wheel variances in any one size. And because they are pressure poured, you can count on more miles of trouble-free operation.

For more than 90 years Griffin has been giving railroad men the best in wheels. We expect to keep on rolling.

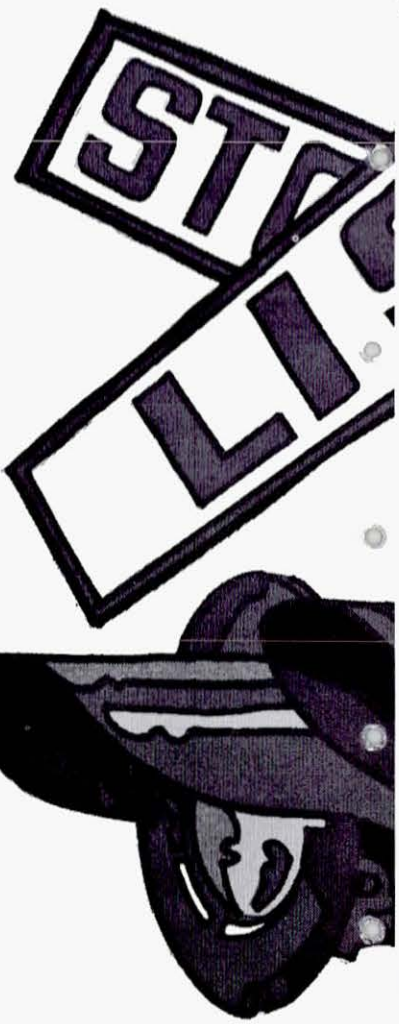
GRIFFIN WHEEL COMPANY

445 N. SACRAMENTO BOULEVARD • CHICAGO, ILLINOIS 60612

MEMBER RPI

ONE OF THE Amsted INDUSTRIES

How come our agreement looks both ways?



PARTS REPLACEMENT AGREEMENT

THIS AGREEMENT is between **THE TIMKEN ROLLER BEARING COMPANY (hereinafter called the "Company") and** _____ **(hereinafter called the "Customer"), and is made effective** _____ **19**___.

In consideration of the purchase by the Customer, on or after the effective date of this Agreement, of Timken® "AP" bearings, for use on railroad freight car applications, the Company hereby agrees as follows:

1. On any Timken "AP" bearing assembly purchased by the Customer during the term of this Agreement for use on freight car applications, the Company will replace or repair, free of charge other than any applicable inspection or service charge otherwise payable and Customer's portion of transportation, any of the parts specified in paragraph 5 below which, within 84 months of the original date of manufacture etched or stamped on the bearing, are found to be in such condition as to require replacement or repair to comply with the standards set forth in the Roller Bearing Manual of the Association of American Railroads as of January 1, 1969. If cup or cone surfaces show evidence of Brinell or fatigue due to normal wear or loading, to the extent that they are not suitable for continued service under standards set forth in the Roller Bearing Manual, the inspection charge otherwise payable will also be waived. If the Roller Bearing Manual should require, or the Customer should specify, that certain parts of the bearing assembly be replaced when the bearing is reassembled, even though such parts are in good condition, the Customer will be charged for the replacement of such parts.
2. The provisions of paragraph 1 above shall also apply, subject only to the 84 months' limitation, to any Timken "AP" bearings purchased by the Customer prior to the effective date of this Agreement.
3. To qualify for replacement of parts under this Agreement, the following requirements must be met, to the best of the knowledge and belief of the Customer and to the satisfaction of the Company:
   a. The condition requiring replacement must be attributable to the quality of material or workmanship in the manufacture of the bearing, and must not be due to damage from derailment, fire, immersion in or exposure to water.
   b. The complete bearing assembly (less axle and cap assembly) including all parts as removed from the axle for inspection must be forwarded to the Company, F.o.b. Columbus, Ohio, fully assembled, and with suitable packaging and/or blocking to prevent damage in shipment and handling, within 84 months of the original date of manufacture, as specified above, with identification of the Customer by or for whom the bearing is being forwarded.
   c. The bearing assembly must have been in use on a freight car operated and maintained in accordance with loading and other rules and standards of the Association of American Railroads for cars in interchange service.
   d. There must not have been any modifications or alterations of the bearing assembly, unless authorized in writing by the Company, nor any improper repairs or any substitution in the bearing assembly of bearing components made by another manufacturer.
4. Following inspection and repair or replacement of parts in accordance with this Agreement, the complete bearing assembly (less axle and cap assembly) will be returned by the Company to the Customer, F.o.b. Columbus, Ohio, subject to such freight allowances as the Company may from time to time establish applicable to all customers of the same class.
5. The bearing parts which are covered by this Parts Replacement Agreement are the cones, cup, cone spacer, seals, seal wear rings, backing rings and wear fittings. Other parts of the bearing assembly - axle end cap, cap screws, locking plate and lubricant fitting - are covered by the warranty referred to in paragraph 6 below.
6. This Parts Replacement Agreement supplements the warranty set forth in the "Conditions of Acknowledgment and Acceptance of your Purchase Order," under which the bearings were originally sold by the Company to the Customer.
7. Except as provided in paragraph 3d above, this Parts Replacement Agreement will apply where the condition of parts requiring replacement or repair has been found upon inspection either by the Company, or by the Customer or any other person for the Customer prior to the forwarding of the complete bearing assembly to the Company in accordance with paragraph 3b above.
8. In the event of any dispute concerning the qualification of a bearing for replacement of parts under this Agreement, the necessity for replacement or repair of particular parts, or any other question concerning the application of this Agreement, the decision of the Company will be final.
9. This Agreement is for a term of _____ months from and after the effective date, and may be extended for successive periods of twelve (12) months by notice in writing from the Company to the Customer. Following the termination of this Agreement, any bearing assembly to which this Agreement became applicable during its initial term or any extension will continue to be eligible for replacement of parts in accordance with the provisions hereof.

IN WITNESS WHEREOF, the Company has executed and delivered this Agreement to the Customer as of the effective date specified above.

APPROVED:

_____
General Manager - Sales or Assistant General Manager - Sales
Railroad Division
The Timken Roller Bearing Company

THE TIMKEN ROLLER BEARING COMPANY

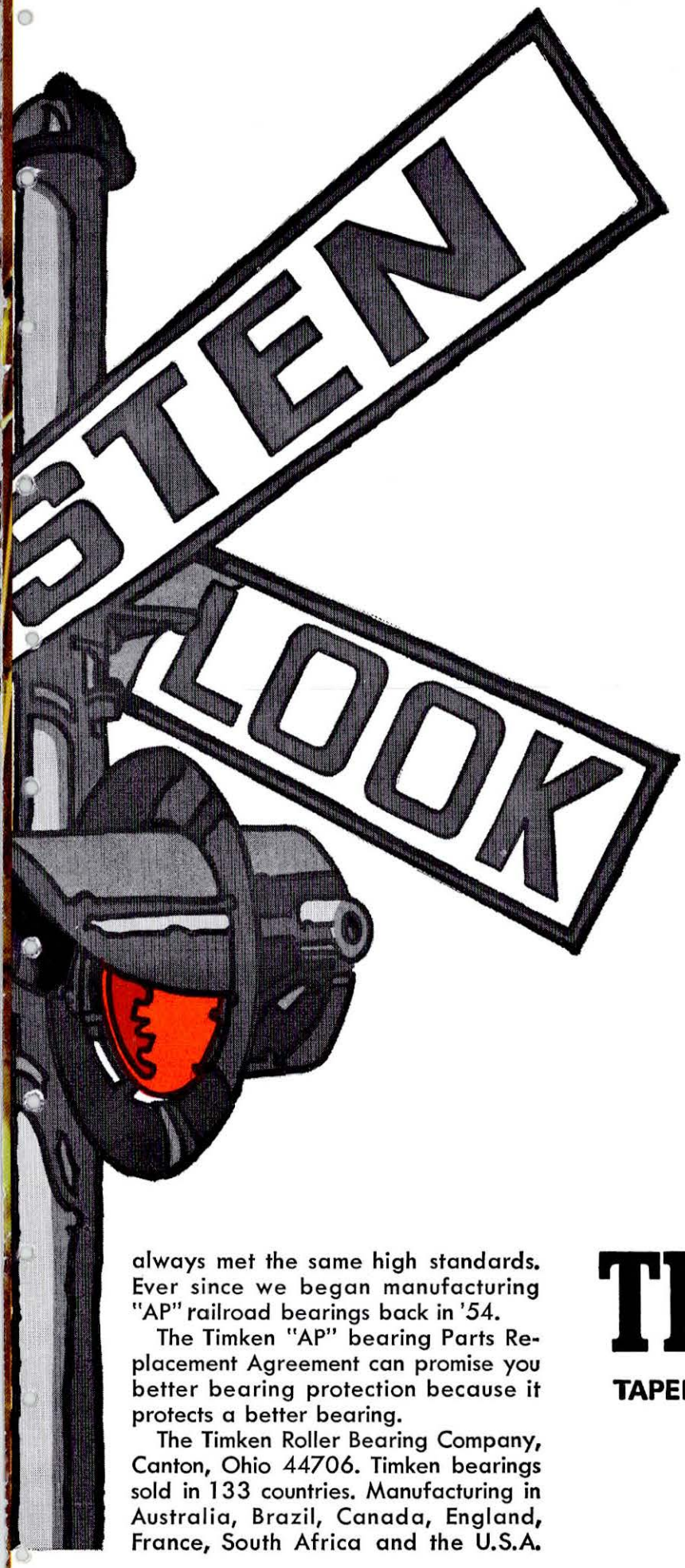
By _____
District Manager, Railroad Division

Because our Parts Replacement Agreement keeps a watchful eye on the past, as well as on the future.

It protects Timken® "AP" bearings that are made today until 7 years from today.

But it also covers every "AP" bearing made up to 7 years ago.

How can it? Because the "AP" bearings we made back then are as dependable as those we make now. Design, manufacture and quality control have



always met the same high standards. Ever since we began manufacturing "AP" railroad bearings back in '54.

The Timken "AP" bearing Parts Replacement Agreement can promise you better bearing protection because it protects a better bearing.

The Timken Roller Bearing Company, Canton, Ohio 44706. Timken bearings sold in 133 countries. Manufacturing in Australia, Brazil, Canada, England, France, South Africa and the U.S.A.

TIMKEN®

REGISTERED TRADEMARK

TAPERED ROLLER BEARINGS

Alco will continue to take care of its own.

Alco is still vitally interested in the proper operation and maintenance of their engines and locomotives.

We intend to make sure that Alco engines and locomotives live normal, productive lives. Alco Products Service, Inc. is organized and staffed to do it.

Alco Products Service, Inc. will continue to warehouse new and rebuilt replacement parts and to maintain the technical backup team to satisfy customer requirements. Our people are available to provide parts and service recommendations and to give individual attention to your needs.

In short, we'll continue to provide improved service on all Alco products. Alco Products Service, Inc., 1 Nott Street, Schenectady, N.Y. 12305.

ALCO

Alco Products Service, Inc.

NYCTA design is a team effort

(Continued from page 24)

other parts of the plan quickly fell into place. There would be a combination of longitudinal and transverse bucketed seating to enhance passenger comfort. Cars would be fully air conditioned and acoustic treatment would receive special attention. Sundberg Ferrar, Detroit designers, styled the cars, giving them a family resemblance to MTA's longer "Metropolitan" m-u cars used by the Long Island.

Compatibility has always been a watchword at NYCTA. It was decided, however, that sophisticated equipment for tomorrow's transit could not be constrained by a requirement that it operate with cars acquired by NYCTA over the past 25 years. This immediately made possible a decision for a new coupler with 64 control circuits, contrasted with the 20 circuits on existing couplers.

● **Two basic models.** There will be two basic types of car in the new order. An "A" car will have a full transverse cab at one end for use by motorman or conductor. The "B" car will have no cabs and will not have an air compressor. While NYCTA has utilized the "married pair" concept in recent years, it is now adopting a "crowd" configuration involving sets of four cars—an A car, two B cars and an A car. This will mean that the shortest possible train with the new equipment will be such a four-car set.

A new air-spring truck with chevron-style rubber springs over the journal boxes will be utilized under the new cars to assure a new level of passenger comfort and to meet the higher speed requirements for the heavier 75-footers. Westinghouse Electric has just received the order for motors, gears, propulsion controls, automatic operation controls, and diagnostic test equipment.

The cars will have a Westinghouse Air Brake RT-5 braking system which blends air and dynamic brake through a "P wire" control system. Eight of the new cars will be fitted with electro-hydraulic brakes to appraise the effects of faster response times on NYCTA operation.

The 81,000-lb empty car will have a top speed of 80 mph. With full passenger load, weight can run up to 125,000 lb and the top speed has been specified as 70 mph.

In summing up the project, McLaughlin recently observed that in abandoning its evolutionary approach to car development for something more revolutionary, NYCTA does not feel that it is compromising reliability. The new cars are to cost $213,400 each. ■

FRANK MALONE

WATCHING WASHINGTON

THE METROLINER DEMONSTRATION HANG-UP centers on Penn Central's reluctance to say it's ready to meet terms of a contract signed with the government nearly four years ago. The reluctance, not necessarily blameworthy, is based on something called the "bare wires" problem. That is, poorly insulated wires in Metroliner cars are causing enough short circuits to keep PC from being anywhere near able to meet the main term of the contract—steady provision of equipment for nine daily round trips between Washington and New York City. There are now six round trips a day.

THERE WON'T BE ADDITIONAL RUNS until mid-summer, at least, says Howard T. Kohout, PC vice president for passenger service. But start of the full demonstration at midsummer, Kohout adds, "is doubtful." PC and the Budd Co. still aren't sure what can be done about the equipment problem, the PC officer says.

IF IT WEREN'T FOR THE WIRE TROUBLE Kohout might be able to give a happier report. The contract signed April 15, 1966, by the then Pennsylvania Railroad includes track improvement that Kohout says is "practically finished." This relates to that part of the contract that covers the area of ride quality. Specific tolerances are set for up-and-down, side-to-side and forward-backward movements of Metroliner cars. There were tests on such movements Dec. 20 and Jan. 23 with portable equipment from the National Aeronautics and Space Administration. The word on the tests is that progress is being made. As for schedule dependability, the six weekday roundtrips during Oct. 26, 1969 to Jan. 7 were 81.8% on time. True, before that time there was an 86% on-time performance. But that was mainly with three roundtrips. A 100% increase in equipment brought just a 4.2% drop in performance. Contributing to that was January cold and snow that affected trains in the period reported (and caused a 50% annulment of Metroliner runs Jan. 9-13).

TERMS OF THE CONTRACT MAY HAVE TO CHANGE before final agreement is reached on starting full Federal involvement. Other areas include ticketing, information, personnel, food service, lavatory facilities, stations and parking. What it amounts to now, it seems, is an effort by PC and FRA's Office of High Speed Ground Transportation to reach a modifying agreement, based on experience since the contract was signed. One possibility might be a reduction in the prescribed number of round trips.

How Reading uses Bee-Line service as traffic lure

Availability of non-stop service on small short-haul trains gives road strong talking point with shippers using trucks

After three years of operating experience, the Reading's Bee-Line program is regarded as a qualified success.

Reading has run 336 Bee-Line trains, generating $375,000 in new revenues by capturing traffic which otherwise would have been carried by truck. Reading says it has turned a profit on every trainload.

Introduced in December 1966, Bee-Line service is used for short hauls (RA, Jan. 30, 1967, p. 32). Small unscheduled trains move on-line freight directly from origin to destination without interruption. The trains, composed of not less than five cars nor more than 20, are manned by single crews of three or four men who handle all aspects of the movement, including switching through yards.

● **Fast take off.** During the first 15 months after being introduced, the Bee-Line method sold at a dizzying pace. Volume sometimes doubled from one quarter to the next. In the first full year, Reading ran 169 Bee-Line trains.

The peak of volume came in the first quarter of 1968 when more than 100 trains were run.

After the peak was reached, volume dropped sharply and has remained at a relatively low level since. A total of 133 trains were run in 1968 and only 33 were run during the first 11 months of 1969.

The reason for the sharp drop in volume is basically the same as the reason for the rapid rise during the early months—special circumstances.

During 1967, for example, Lukens Steel used 71 trains to move pig iron from Swedeland, Pa., to Coatesville, Pa., about 30 miles. In 1968, the contract that required the pig iron was nearing completion. Only 24 trains were used.

The first year of Bee-Line service also saw the start of a contract to move 39 10-car trains of cinders from Shamokin, Pa., to Port Reading (Carteret), N. J. These shipments were the longest made by Bee-Line—408 miles round trip. Elapsed time for the first run was 15 hours 10 minutes. As the crews became more experienced with the route, the time was cut to less than 13 hours.

Reading officers are not disappointed by the decline in Bee-Line volume during the past year and a half. Says Franklin G. Fisher, Reading Vice President for operations and vehicle maintenance: "The Bee-Line is meant for particular conditions and those conditions simply didn't occur very often this year." He expects an increase in 1970, but doesn't anticipate a return to the volume of early 1968.

In addition to getting more volume from some contracts in the offing, Fisher believes Bee-Line business can be developed from two sources not yet used. First, Bee-Line trains can be made up at interchange yards if connecting lines adopt the Bee-Line concept. The second source of volume would be combination trains for two shippers in the same vicinity.

● **Conditions must be right.** Fisher contends that the Bee-Line service should be used only when there is the right combination of receiver need, commodity, distance, time, economic viability and work rules. Reading will not make a movement by Bee-Line unless its own analysis has established that the movement will mutually benefit the shipper, the receiver and the railroad. Although it has not happened, the unions can also block a Bee-Line movement if they believe such a run will not benefit the members.

● **Work rules modified.** The unions hold veto power by virtue of the fact that concessions they made in work rules permit the system to work. Specifically, the unions agreed:

— To permit Bee-Line trains to operate with three-man rather than the usual five-man crews;

—To permit interdivisional runs;

— To waive the penalty of an extra day's pay for running through the home terminal;

— To permit road crews to switch their own trains, rather than requiring that all switching be done by yard crews;

— To allow mileage to be limited by the Federal Hours of Service Act (presently 16 hours but expected to be dropped first to 14 and later 12 hours by pending legislation); and

— To permit road crews to perform both hauls and industrial placements.

In return for these concessions, the Brotherhoods insist that Bee-Line Service be used only for new or reclaimed business that otherwise would be lost to truckers.

The agreement with the unions also requires that crews be shaped up from the extra boards. Five hours is the basic working day, with overtime being earned thereafter. The Bee-Line has resulted in 1,055 crew assignments.

● **Time vs. money.** The five-hour day makes Bee-Line service relatively expensive on longer runs. This is one reason that every request for service is subjected to careful economic analysis. The operative word is "relative." How expensive is it in relation to trucking? And how expensive is it in relation to the shipper's needs?

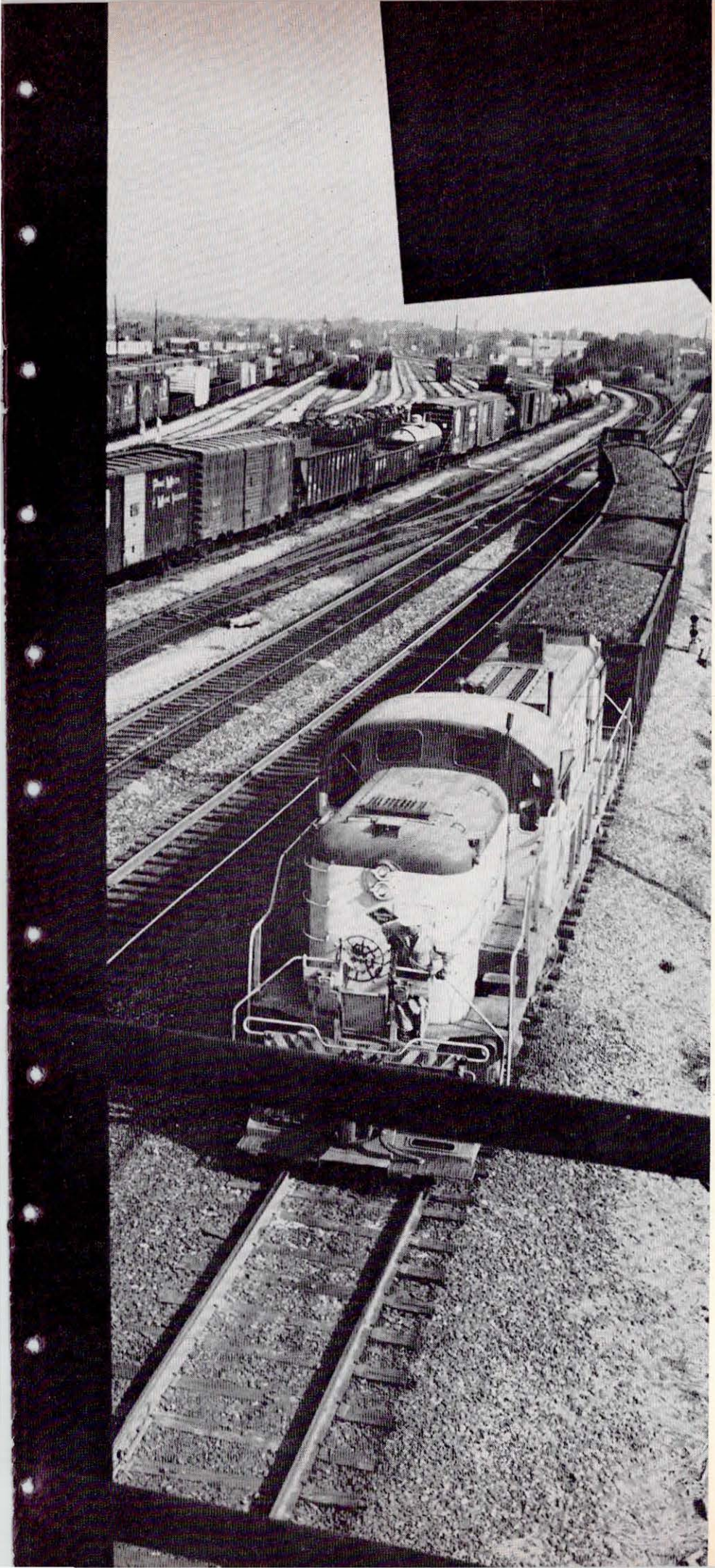
The process of finding the answers to these two questions may well be the secret of Bee-Line's total importance to the Reading.

Speed of delivery is the most common reason given by shippers when considering the use of the Bee-Line. Almost always, if economic analysis establishes that Reading can meet the time schedule at a cost competitive with trucking, the railroad will get the freight.

But this is far from the whole story of what the Bee-Line has done for the Reading. The company often gains even when the shipment does not move by Bee-Line. This is because Reading's traffic people are now being called in by shippers who would not otherwise consider using rail.

When these shippers' distribution problems are reviewed, it often is found that regular railroad service can do a better and less expensive job than can trucks. For example, a Reading traffic expert can sometimes show a shipper that one-day delivery is not as important as had been thought. With proper scheduling, the railroad can do the job at far less cost.

● **Call for creative prospecting.** The Bee-Line concept is the inspiration of Reading President Charles E. Bertrand. As chief executive of a short-haul rail-



road whose fortunes were founded in large measure on anthracite, Bertrand recognized that the line's revenues would continue to dwindle with the diminution of coal-field activity.

The railroad's only hope, he was convinced, lay in the capture of a portion of the freight moving through its territory on trucks.

To capture this freight, Bertrand made two basic moves. First, he realigned the marketing operation and charged it with the task of creatively prospecting for new business. Second, he improved service so business once captured would stay.

By railroad standards, the changes in marketing operations were dramatic. Eleven new sales outlets opened within a few months, bringing the total to 27. A formal sales training program for both new and experienced salesmen was instituted. New sales aids were developed. These include a 14-minute color movie, "Your Track to Profits," which salesmen present with desk-top projectors. Another sales aid is a vest pocket slide rule showing national schedules to and from Philadelphia, local schedules on the Reading and piggyback data.

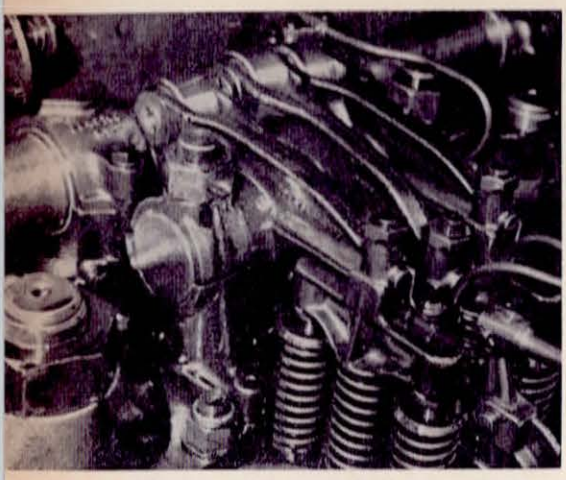
New positions appeared on the Company's table of organization—marketing managers. These are men who help shippers analyze the best ways to move their products.

The personal marketing efforts are supported by expanded sales promotion and marketing programs that include monthly news bulletins, brochures, a public relations campaign and display advertising schedules in industrial and financial magazines. Reading executives promote their ideas with speeches to industrial and civic organizations.

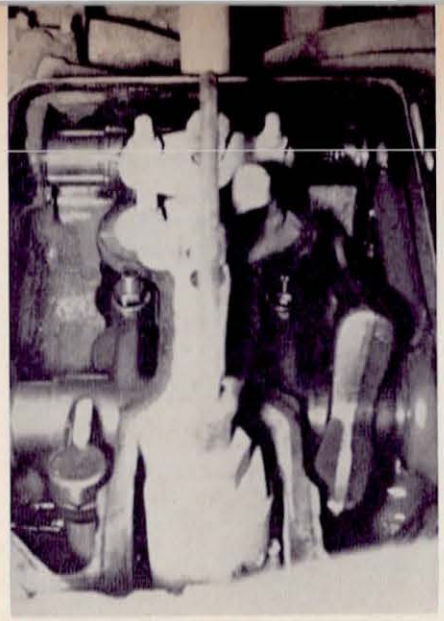
Paralleling this marketing activity is a continuing program to improve service through Reading's 1,200-mile network. With the exception of the Bee-Line, which was a true innovation, the changes in the service program were not revolutionary. Rather, they were the result of a determined effort to improve existing programs.

Such improvements have been steady and substantial over the past three years. Yard-handling and car-tracing procedures have been computerized. Car utilization has increased markedly as per diem has been cut in half. The net result has been faster movement of all freight through the Reading system.

The fastest service, of course, is the Bee-Line. Reading officers say that the ability to offer fast short-haul service provides the traffic department with an effective sales tool which extends the importance of the Bee-Line beyond its direct contribution to revenues. ■



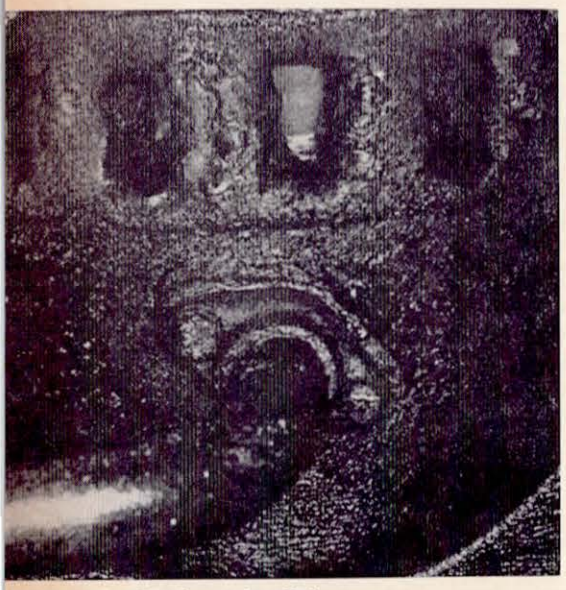
Little soot, varnish
This two-cycle engine, operated 126,000 miles with detergent oil, was clean.



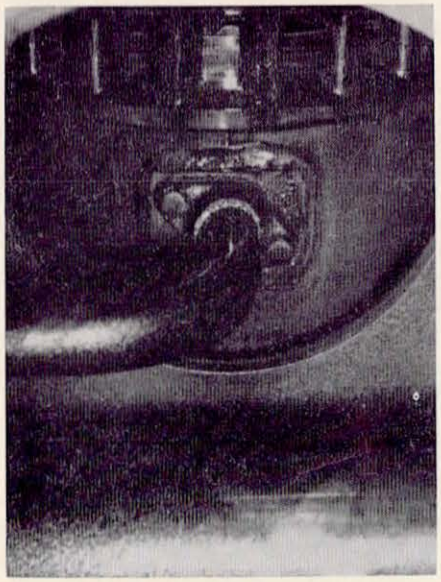
No deposits
Although vulnerable to deposits, rocker box shows none after 57,000 miles.

Additives counter engine problems

With today's diesels putting increased demands on lube oils, identification of undesirable conditions is of importance.



Carbon build-up . . .
Inlet-port deposits were unacceptable after engine operated 145,000 miles.



. . . can be minimized
Equivalent port is still clean after 125,000 miles using dispersant/detergent oil.

By T. F. Gerrety
Chief engineer, Railroad Department
Mobil Oil Corporation

Like living things an operating engine and its lube oil change with time, care, environment and fuel. The oil can oxidize, precipitate deposits, change viscosity and suffer contamination. The engine can become coated with varnish, choked with carbon and clogged with sludge.

Knowing exactly what happens to the lubricated portions of an engine—and its oil—is a long step toward optimizing engine performance.

For instance, under the temperatures and pressures in any modern engine, oil can change chemically in combination with fuel and air. The changes can drastically reduce lubrication and engine effectiveness. Intake and exhaust ports can plug, bearings can corrode, and piston rings can become stuck. Mobil Oil Corporation has identified 12 basic undesirable conditions that result from interaction between a modern railroad engine in operation and its lubricating oil. These problems are: high temperature varnish, soot deposits, sulfate deposits, sulfuric-acid corrosive wear, sludge deposits, rust and corrosion, combustion-chamber deposits, port deposits, valve deposits, high-pressure wear, oil oxidation and bearing corrosion.

The latest engine oils for railroad service contain detergent/dispersant additives developed to help prevent or resist these conditions. In modern oils like Mobilgard 440—designed for medium-speed 2-cycle and 4-cycle highly turbocharged diesel engines such as the modern EMD and General Electric diesels—each additive is included for the specific contribution it can make in handling a particular potential problem.

Mobil characterizes the 12 conditions, their effects on operating economy and their solutions as follows:

● **High temperature varnish.** At the sustained high temperatures at which many railroad engines operate during eighth-notch operation, oil tends to deteriorate in chains of chemical reactions that normally produce varnish deposits throughout the engine and especially on piston ring grooves and skirts. Lubrication scientists attack that problem by adding agents that retard oxidation and polymerization processes and neutralize the acids formed during oxidation. These two actions minimize the formation of varnish. In Mobilgard 440, specifically, various metallic detergents are used. The detergents react with the degradation products most likely to result in varnish. This diverts the reaction into producing

harmless and relatively oil-soluble products. If this were not done, the degradation products would become insoluble and would rapidly increase in size, become difficult to keep in suspension, and tend to bake onto the hot metal surfaces as varnish deposits. In time, these deposits would turn to hard carbon, especially in ring grooves. Anti-varnish additives also control high-temperature deposits another way—by actually neutralizing whatever acids are formed during the combustion process. This also minimizes formation of varnish-forming materials. Varnish, a major problem wherever it builds up, is especially troublesome in areas of close tolerance like valve stems and piston rings.

● **Soot deposits.** Soot results from incomplete fuel combustion and appears in lubricated portions of diesel engines as very fine particles. If the combustion problem is not corrected or compensated for, the particles coagulate and accumulate on filters, requiring that the filters be replaced. Soot will also accumulate in most other parts of an engine.

Of the several types of additives available to alleviate soot problems, the most effective is proving to be ashless dispersant additives of low molecular weight. Of the two other principal types, metallic additives cannot adequately disperse fine soot. High-molecular-weight ashless additives sometimes contribute to lacquer formation themselves because of insufficient thermal stability. The low-molecular-weight additive envelops soot particles individually, keeping them small, and inhibits them from linking with each other. This type of anti-coagulating action is the ideal form of dispersancy for very fine soot, which cannot be handled by other detergent/dispersants.

● **Sulfuric-acid corrosion.** Chemical reactions involving fuel sulfur produce corrosive sulfuric acid in all engines. To forestall this type of corrosive damage, superior lube oils are manufactured to be alkaline. They are formulated with alkaline metallic additives that have enough reserve alkalinity to neutralize any acidic materials that may be formed.

● **Sulfate deposits.** Sulfur-bearing diesel fuel may also lead to formation of sulfates in engines that regularly operate at high temperatures. Sulfates contribute to deposit buildup on pistons and other high-temperature parts. They appear in lubricating systems as a reaction product of sulfur in the fuel and metallic additives in the lube oil. Sulfate trouble increases with increasing fuel-sulfur content and increasing engine operating temperatures. Fortunately, metallic detergent additives have enough reserve detergency to help prevent sulfates from depositing in the system.

● **Sludge deposits.** Sludge is a combination of soot from incomplete combustion, fuel contaminants, moisture from condensation (especially in units subjected to long periods of idling), lubricating oil in various stages of degradation, and additive decomposition products. Unless resisted by effective dispersant activity these materials combine as deposits in inactive areas of the engine and may circulate and close small passages. Engines that frequently run at low temperatures or at variable speeds and loads are particularly vulnerable to sludge formation in areas of stagnant oil, such as the top deck.

Piston problems

Undesirable accumulations of varnish and carbon can develop in "hot" zone of diesel piston (top). This deposit built up during 75,000 hours of operation with oil not formulated for heavy-duty service.

Because sludge particles are relatively small, sludge cannot be suspended adequately in the oil by metallic detergents. Only ashless dispersants effectively prevent them from agglomerating and dropping out inside the engine, and coating filter surfaces. Unless inhibited by lube oil of adequate dispersency, agglomerated particles may plug filters rapidly and require a filter change. Worse, an engine-stopping pressure drop can develop across a plugged filter and threaten loss of engine availability. Careful maintenance and proper operation can minimize lube-oil contamination by soot, contaminating fuel dribbled from injectors, and other components of sludge.

● **Valve deposits.** Valve temperatures are not as high as cylinder temperatures, but can nevertheless cause problems in tight-clearance areas. Built-up varnish on valve stems can cause valve sticking. Varnish is especially likely to form on exhaust valves lubricated by an unstable oil. The hot gases of combustion lead to reactions that drop deposits onto valve ports, and may lead to deposits on valve faces that could cause complete closure. These conditions are minimized by the oxidation ability and detergent ability of the oil.

● **Intake port deposits.** In two-cycle engines, the combustion gases carry soot particles from incomplete combustion. These particles, plus ash-type and carbonaceous materials resulting from burning lubricating oil in the combustion chamber, are carried out through the ports by the "puff back" phenomenon. Some of these combustion products adhere to the port surfaces and port bridges. This type of deposit is minimized by ashless dispersants, which soften and fragment the exiting mixture of soot, carbon and ash, making it unlikely to accumulate on the ports.

● **Extreme-pressure wear.** High pressures sometimes break the lubricating film that protects rubbing surfaces and allow contact. Extreme-pressure (EP) additives in superior oils decrease wear during this metallic contact and prolong engine life. Heavily loaded components like the silver wrist pin insert bearings in some engines, and engine valve trains in others, are especially vulnerable to this type of damaging wear.

● **Oil oxidation.** To remain stable in face of reaction-promoting temperatures and agitation that brings air into contact with oil, lubricating oil must be refined carefully if it is to be naturally resistant to thermal and oxidative degradation. An added measure of resistance to breakdown can be provided by special anti-oxidant additives. These are now routinely added to superior oils. In a detergent/dispersant oil like Mobilgrad 440, anti-oxidants modify or retard oxidizing reactions and block creation of acidic compounds. The compounds can be corrosive to iron cylinders and rings and some types of bearing metals; they can increase viscosity; and they can contribute to formation of lacquer and varnish. But to be effective, anti-oxidant additives must be tailored to match their host oils. An important advantage of a good match is that adequate reserve alkalinity can be maintained over long periods, greatly extending oil-drain intervals. ■

Northern Lines merger approved

Supreme Court votes 7-0 in favor of consolidation

A railroad marriage first proposed in 1893 finally was blessed last week by the Supreme Court.

By a 7-0 vote, the Court Feb. 2 approved the Northern Lines merger. The approval will bring into being a new holder of the title, "world's largest railroad." Made up chiefly of Great Northern, Northern Pacific, and their jointly-owned Chicago, Burlington &Quincy, the new Burlington Northern will be a 26,500-mile giant stretching from Canada to the Gulf of Mexico and from Chicago to the Northwest Coast.

The Court decision marked the end of a campaign in which the first significant action was the 1893 denial by the same Court. Then the decision was that union of Great Northern and Northern Pacific would violate a Minnesota law against merging parallel, competing railroads. Two subsequent attempts failed, too. The fourth and successful one began in 1960 with agreement on terms of a merger. That agreement, however, still had to undergo refinement through: (1) denial by the Interstate Commerce Commission in 1966; (2) approval by ICC in late 1967, after conditions protecting Milwaukee Road were added: (3) appeal by the Justice Department and several stockholder groups to a U.S. District Court in early 1968; (4) approval by the District Court in late 1968; (5) appeal to the Supreme Court.

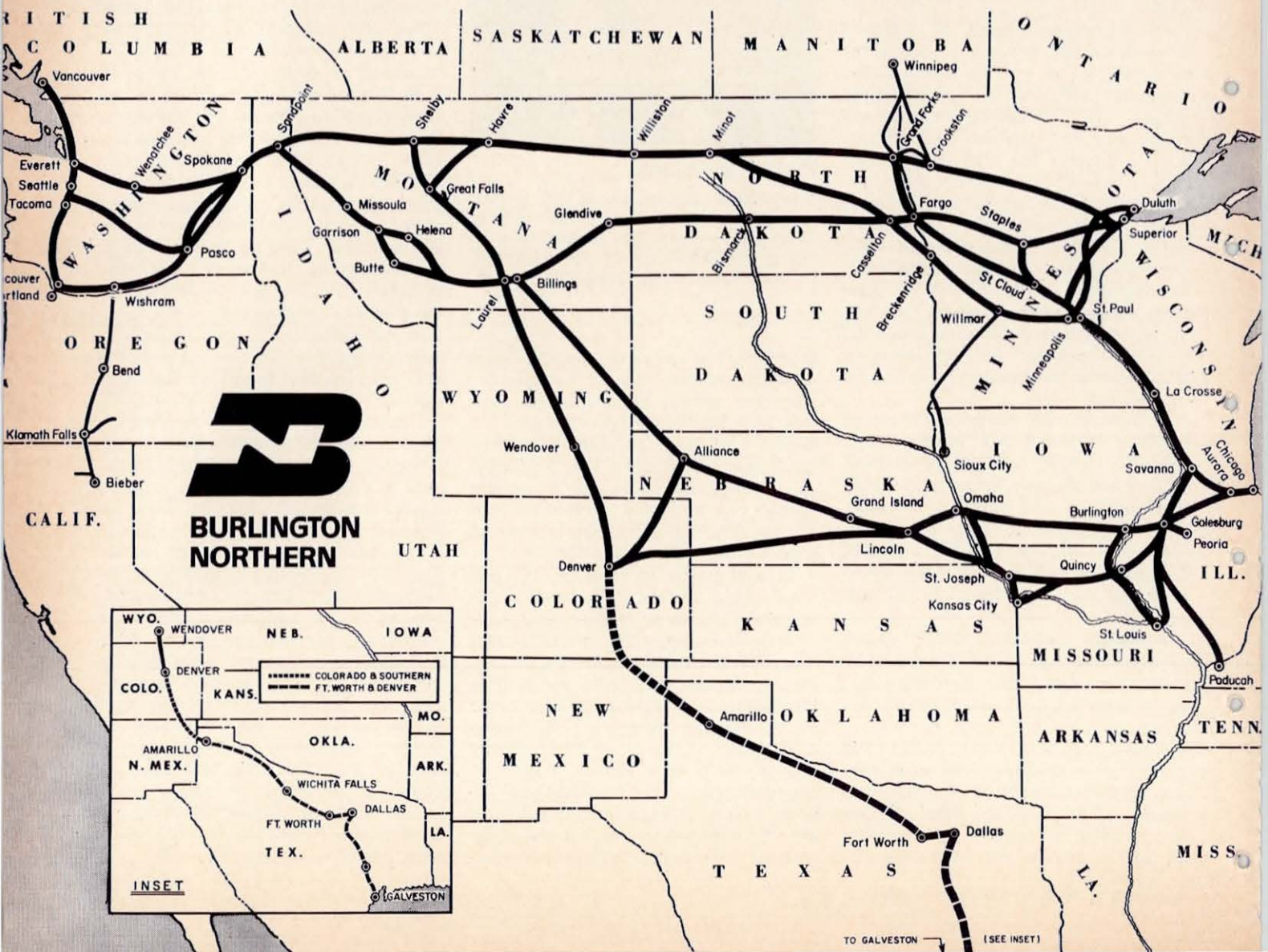
A delay in early 1968 was caused by an order obtained by the Justice Department from the Supreme Court early on May 10, just a few hours before the merger was scheduled to become effective.

The effective date now is March 2, according to a statement by the three presidents, GN's John M. Budd, NP's Louis W. Menk and CB&Q's William J. Quinn.

"Although the task of physically consolidating these three major railways, together with the Spokane, Portland & Seattle, is a giant undertaking that cannot be fully accomplished soon," the presidents said in a joint statement, "it is one we approach with determination and enthusiasm.

"We have finally gained a long-sought opportunity to prove our merger will result in a dynamic new transportation system that shall benefit not only the American West but the nation as a whole."

● **Benefit to customers and carriers.** Benefit to the nation also was the theme



of the opinion written by Chief Justice E. Warren Burger. The Court turned down the Justice Department's argument that merger of the Northern Lines would seriously, and needlessly weaken competition in the Northwest. It supported the contention of the District Court and the ICC that even though there would be some weakening of competition, the benefits to carriers and customers would overshadow "anticompetitive effects."

"Our review, like that of the District Court," the Chief Justice wrote, "reveals substantial record evidence that the conditions agreed to by the applicants, the attrition agreements with the employees, the enhanced savings found in the second report [ICC's 1967 reversal of its 1966 denial], and the service improvements to shippers and the public found in the first and second reports outweighed the loss of competition between the Northern Lines."

The Court listed these advantages as outlined previously by the Commission:

—Shippers would benefit from improved car supply, wider routing, better loading and unloading privileges and improved tracing and claims service.

—Burlington Northern could use the most efficient routes, eliminating yard interchange delays, and that would mean faster service for shippers.

—Lower rates for customers would result from the economies which the merged lines could show by consolidating yards, repair facilities, train service, equipment—and management.

—The opening of strategic gateways to Milwaukee Road would remove artificial barriers to the development of new markets, services and traffic-supply sources.

● **Milwaukee becomes truly transcontinental.** What would happen to the Milwaukee was a critical question in the latest campaign for the BN merger. The ICC first rejected the Northern Lines proposal in 1966 by a 6-5 vote precisely because protective conditions agreed upon for the Milwaukee weren't considered strong. A year later, however, new conditions had been worked out.

The conditions are aimed mainly at improving Milwaukee's competitive position between the Twin Cities and the West Coast. Under old practices, traffic originated by the Milwaukee east of the Twin Cities and destined for the West Coast—or intermediate points—largely had to be given up to GN or NP at the Twin Cities. Milwaukee tracks end before reaching Portland, Ore., and the GN and NP could refuse to take Milwaukee traffic at other points for delivery at Portland or up the West Coast or throughout the Northwest.

(Continued on page 46)

Cabooses are cheaper by the dozen, too

At International you don't have to order quantity to get quantity price

We have a system of pooling orders that means by lumping the needs of individual railroads together on the same production run, each benefits by the "quantity discount."

Nowhere else can you get International quality and simultaneously save money.

International Car co.

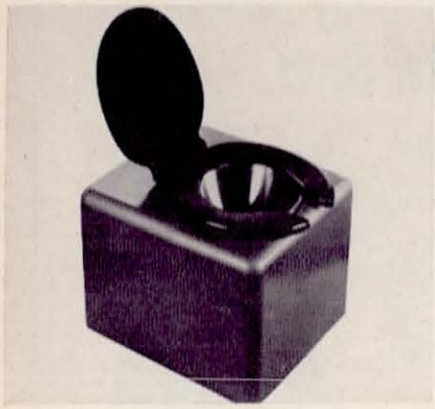
835 Englewood Ave./Buffalo, New York 14223

Representatives: M. H. Frank — Cleveland, O. • Prest Company — St. Paul, Minn. • R. B. Hornberger — San Francisco, Cal. • F. E. Ross, Jr. — St. Louis, Mo. • E. J. Hasten, Jr., W. B. Reed — Chicago, Ill.

A Part of NATIONAL INDUSTRIES, INC.

MEMBER RPI RAILWAY PROGRESS INSTITUTE

NEW PRODUCTS REPORT



Incinerating toilet (RA-1)

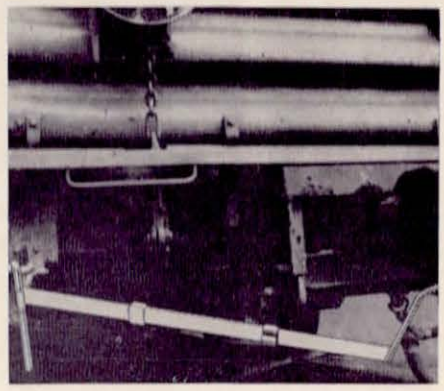
Designed for fixed or mobile applications such as locomotives and cabooses, the N-Con Thermox waste disposal system combines a waterless toilet and a highly efficient incineration concept. The unit requires only a source of 74-volt d-c or 22-volt a-c and a vent stack. All wastes are reduced to sterile ash without chemicals or waste holding tanks. The electric heaters are sheathed in Inconel for long life and are an integral part of the removable ashpan. Heaters and other electrical components plug in for easy replacement with all electrical elements grounded. The unit is 17 in. high, 18 in. wide and 21 in. deep. *N-Con Systems.*

Television system (RA-4)

The EYE-24 closed-circuit telesystem (CCTV), said to be the first to provide built-in 24-hr viewing capability, is designed for surveillance of truck terminals, railroad yards, and other locations threatened by illegal entry and thievery. The system automatically adjusts to various outdoor lighting conditions. The basic system uses a television camera containing a vidicon-type camera tube coupled to an electronic image intensifier tube. Typically, the camera is enclosed in a weatherproof housing mounted on a pan and tilt mechanism at an elevated location. A single camera can survey more than a million square feet. At a remote central station, even up to five miles away, a security guard monitors the TV picture and controls the pan, tilt and a zoom lens for close-up viewing. Guard can control many TV cameras and monitors from a single location, or many monitoring locations can be incorporated into the system. *Westinghouse Electric Corp.*

Car-door press (RA-2)

The moveable head of the Rodgers 300-ton press designed to straighten bent or otherwise damaged railroad car doors, can be adjusted 54 in. to the right or left of center by a geared electric motor and remote control switch. Press width between column upright is 12 ft, with 38 in. between front and back table members. Ram speed advance is 48 ipm, while press work is handled at 13 ipm and ram return at 76 ipm. *Rodgers Hydraulic, Inc.*



Uncoupling device (RA-3)

The Slide Rule universal uncoupling lever for cars with sliding sills and end-of-car cushioning is claimed to eliminate complicated repairs resulting from passed couplers. The device has only two moving parts which simplifies restoration at any repair facility. In the event of damage, bent bars are quickly restored to proper alignment by heating and straightening on a flat surface. Two designs for E and F couplers are available. *Holland Company.*

Plastic panels (RA-5)

Standing and inverted rib designs have been added to the line of Glasbord fiber glass reinforced plastic panels. Like the convolute rib, the new panels are used to line the interiors of refrigerated piggyback trailers and freight cars. A variety of sizes, including door panels, is available. Panel lengths range from 88 to 96 in., rib lengths from 76 to 84 in. Width is 49 in., including a 1-in. offset overlap for a coverage of 48 in. *Kemlite Corp.*

RAILWAY AGE
THE TRANSPORTATION WEEKLY

30 Church Street, N.Y., N.Y. 10007 READERS' SERVICE (Att. J. Lindstrom)

PLEASE SEND ADDITIONAL INFORMATION ABOUT PRODUCTS IN ADVERTISEMENTS NUMBERED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

PLEASE SEND INFORMATION ABOUT PRODUCTS DESCRIBED ON PAGE 40 MARKED: RA-1 RA-2 RA-3 RA-4 RA-5

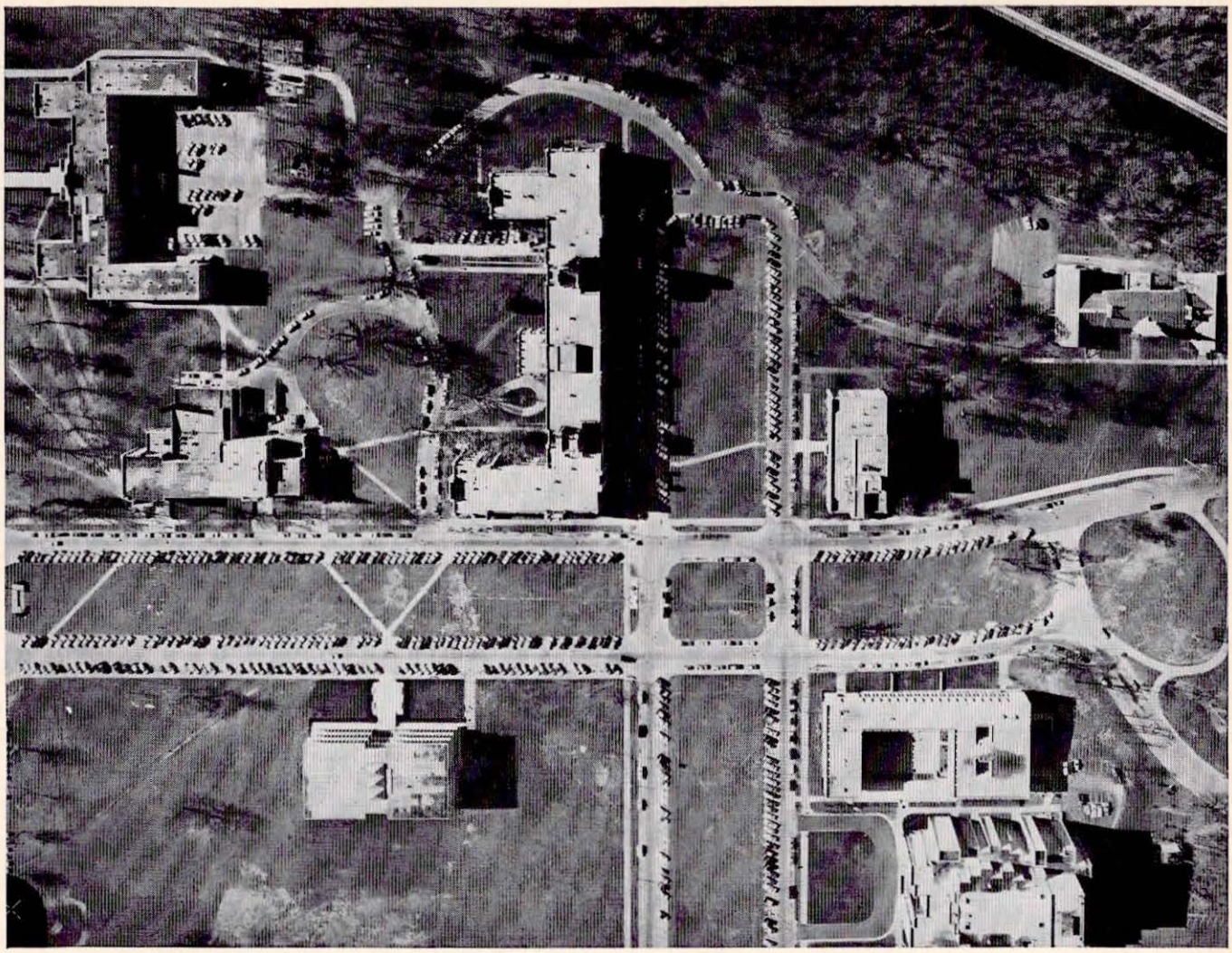
NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

CITY ..... STATE ..... ZIP .....

• Inquiries can be processed only if title and company are shown. 2/2-9/70



What on earth are you doing?

Whether you're working on, above, or below the earth, the big picture—aerial photography—can help. All you need to do is apply photointerpretation to your frame of reference. Here are just a few samples.

If you farm, the big picture on infrared film might save your crop from blight. If you're in utilities, the big picture can show you the condition of your right-of-way. If pipelines are your problem, the big picture is the way to go to find where to go. Forestry—the big picture shows you all about all the trees; take your pick. With geology, the big picture gives you the lay of the land without a lot of foot slogging.

The big picture you get from aerial photography can benefit you, whatever your field. Send for your complimentary copy of *Photointerpretation and Its Uses*. This booklet, produced in part with screenless printing and stereo 3D, can show you some of the many advantages of aerial photography and photointerpretation. Send the coupon to Eastman Kodak Company, Dept. 29-2, Rochester, N.Y. 14650.

EASTMAN KODAK CO. Dept. 29-2
ROCHESTER, N.Y. 14650
I would like to see if photointerpretation can help my business. Please send a copy of *Photointerpretation and Its Uses*— Code M-42.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____

STATE_____ ZIP_____

OCCUPATION_____

Kodak

What good are clean ash trays when you can't get the car the ash trays come in even when you have a reservation and the reservation has been confirmed?

For a long time now, there's been so little difference between car rental companies they argued publicly about who had the cleanest ash trays. Max has changed all that.

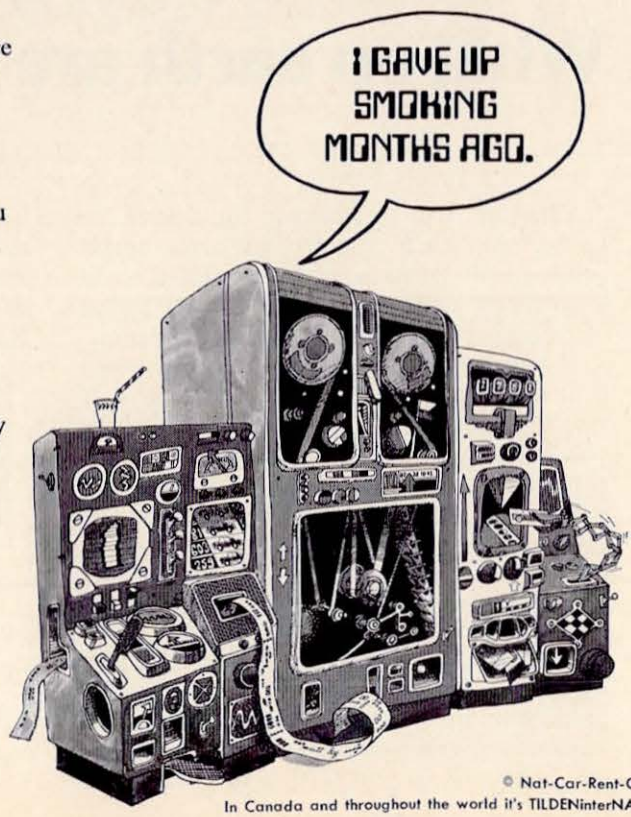
Max is National Car's computer. He knows from minute to minute which of our cars are available.

Wherever you are, anytime of the day or night, you can call National for a reservation toll-free at 800-328-4567. And thanks to Max, we don't have to make any assumptions or blind promises like those New York outfits do.

We just ask Max what's available, Max tells us, and we can guarantee you a car on the spot.

National also features GM cars, gives S&H Green Stamps, and has 1800 locations. Second only to old what's-its-name.

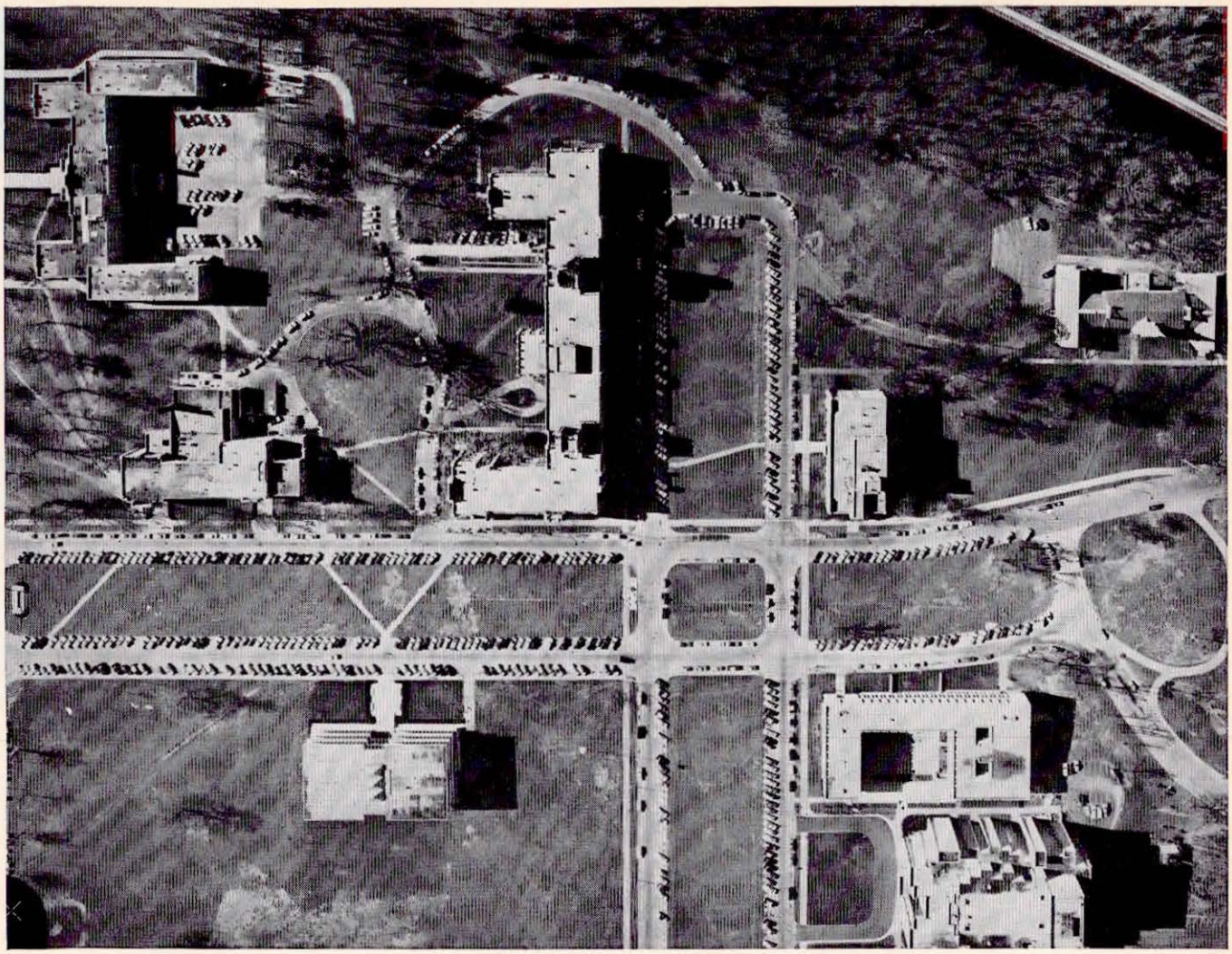
Now *there* are some differences you can sink your credit card into—any recognized credit card.



NATIONAL CAR RENTAL

We make the customer No. 1

© Nat-Car-Rent-Co 1969
In Canada and throughout the world it's TILDENinterNATIONAL



What on earth are you doing?

Whether you're working on, above, or below the earth, the big picture—aerial photography—can help. All you need to do is apply photointerpretation to your frame of reference. Here are just a few samples.

If you farm, the big picture on infrared film might save your crop from blight. If you're in utilities, the big picture can show you the condition of your right-of-way. If pipelines are your problem, the big picture is the way to go to find where to go. Forestry—the big picture shows you all about all the trees; take your pick. With geology, the big picture gives you the lay of the land without a lot of foot slogging.

The big picture you get from aerial photography can benefit you, whatever your field. Send for your complimentary copy of *Photointerpretation and Its Uses*. This booklet, produced in part with screenless printing and stereo 3D, can show you some of the many advantages of aerial photography and photointerpretation. Send the coupon to Eastman Kodak Company, Dept. 29-2, Rochester, N.Y. 14650.

EASTMAN KODAK CO. Dept. 29-2
ROCHESTER, N.Y. 14650
I would like to see if photointerpretation can help my business. Please send a copy of *Photointerpretation and Its Uses*— Code M-42.

NAME_____

COMPANY_____

ADDRESS_____

CITY_____

STATE_____ ZIP_____

OCCUPATION_____

Kodak

What good are clean ash trays when you can't get the car the ash trays come in even when you have a reservation and the reservation has been confirmed?

For a long time now, there's been so little difference between car rental companies they argued publicly about who had the cleanest ash trays. Max has changed all that.

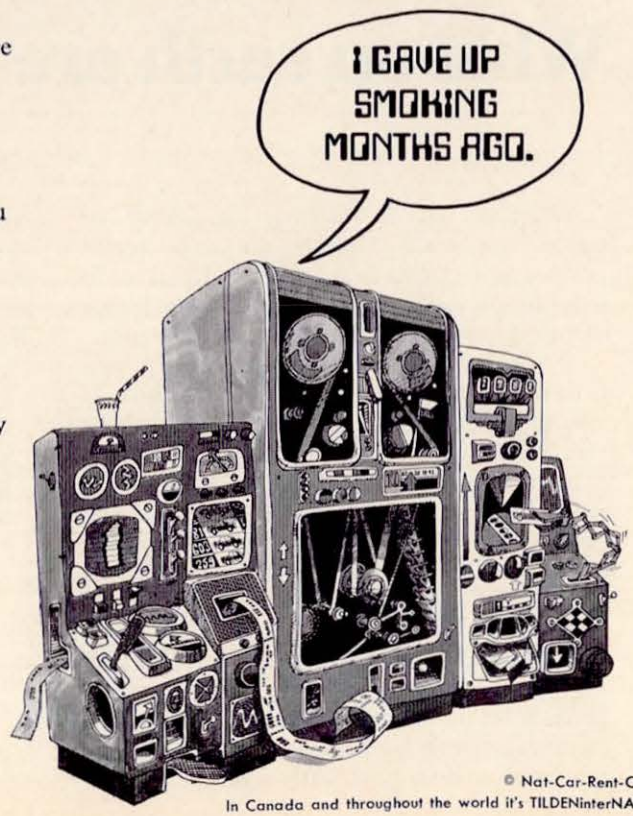
Max is National Car's computer. He knows from minute to minute which of our cars are available.

Wherever you are, anytime of the day or night, you can call National for a reservation toll-free at 800-328-4567. And thanks to Max, we don't have to make any assumptions or blind promises like those New York outfits do.

We just ask Max what's available, Max tells us, and we can guarantee you a car on the spot.

National also features GM cars, gives S&H Green Stamps, and has 1800 locations. Second only to old what's-its-name.

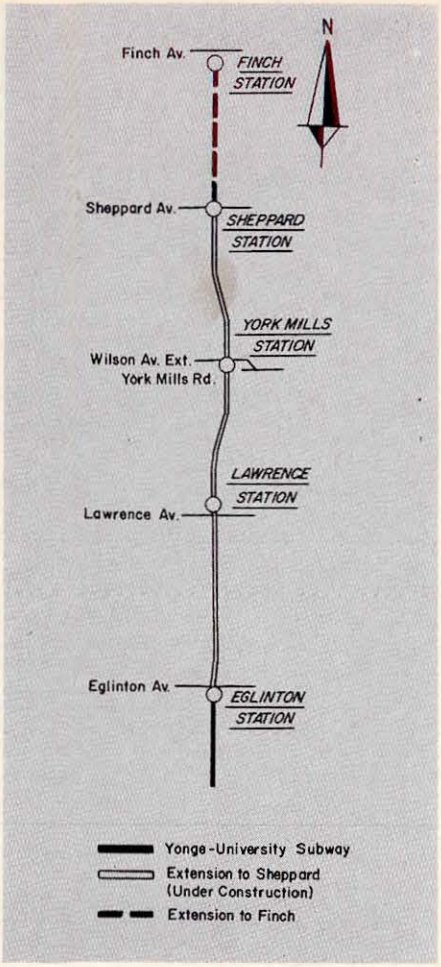
Now *there* are some differences you can sink your credit card into—any recognized credit card.



NATIONAL CAR RENTAL

We make the customer No. 1

© Nat-Car-Rent-Co 1969
In Canada and throughout the world it's TILDENinterNATIONAL



More lines, more cars for Toronto

A second extension of Toronto's Yonge Subway has been approved by the Ontario Municipal Board.

The latest extension, scheduled for completion in late 1973, will be 1¼ miles long and will cost $31 million. To be built in a tunnel, it will connect Sheppard Avenue, the terminus of the first extension, to Finch Ave.

The Toronto Metro will pay most of the cost of the extension, raising approximately $26 million through its annual two-mill subway tax levy and part of the remaining $5 million through the sale of 30-year debentures. The Province of Ontario is expected to subsidize part of the construction cost. Under the Highway Improvement Act, the province is now able to pay 50% of eligible subway construction costs. Work is in progress on the first extension, which will span the four miles between Eglinton and Sheppard avenues. Completion of this extension is scheduled for 1972.

The Toronto Transit Commission says that "detailed planning is already underway on the second extension and construction work will likely begin in 1971."

In a separate development, the commission announced it would accept bids March 9 for the design and construction of automatic substation equipment for the first extension of the Yonge Subway. Bids will be opened March 10.

● **New cars, too.** The TTC has awarded an $11.7-million contract to Hawker Siddeley Canada for 76 new subway cars. All will be used on the Yonge extension now under construction and for additional service on the completed portion of the subway system.

Hawker Siddeley will be asked to build experimental features into six of the cars. Among them will be the application of solid state traction controls capable of regeneration into the third rail; substitution of a solid state inverter-converter to replace existing motor alternator sets; a redesigned roof and ceiling and a different ventilating system to reduce interior noise levels.

Delivery of the new cars is scheduled to be made throughout 1971. They will be similar to those Hawker Siddeley built previously for the Toronto subway system. The 75-ft-long cars will be built of aluminum. Each will have a seating capacity of 83. ■

We'll live up to your good name!

When you've got to trust someone to build a car that's good enough to carry your trademark, look to Berwick. We build cars to meet the needs of America's railroads. This time it's boxcars for the Chicago and North Western. What can we build for you?

BFF

BERWICK

MEMBER RPI

Berwick Forge & Fabricating Corp. / Box 188, Berwick, Pa. 18603/80 East Jackson Blvd., Chicago, Ill. 60604 / Subsidiary of Whittaker Corp.

Circle 13 on coupon page 40

BURRO POWERS THE WAY to Extra Earnings

Model 40 BURRO, equipped with automatic folding leads, shown driving piles with a diesel pile hammer.

RUGGED!

VERSATILE!

Burro Cranes and equipment get the job done fast and efficiently, on the line, in the yards or Stores Department. Pile driving, ditching, laying welded rail, or lifting track panels are but a few of the many jobs handled quickly and economically by the BURRO.

BURRO Rail Threader handling continuous welded rail.

Model 40 BURRO Ditcher supplies its own locomotive travel and work power. Loads dump cars, furnishes necessary air for dumping.

Write for complete information and BURRO Crane Bulletin No. 51

WC

WESTERN-CULLEN DIVISION
Federal Sign & Signal Corporation
2702 W. 36th PLACE • CHICAGO, ILL. 60632
CANADA: WOODINGS CANADA, LTD., 5 Place Ville Marie, Montreal 2, Que.

Circle 14 on coupon page 40

Appeal on per diem fails

Railroads must start complying March 1 with the new ICC time-and-mile per-diem plan upheld by the Supreme Court last November. Compliance will involve allowance for a period dating back to Aug. 1, 1969, when the plan was supposed to go into effect. For that period, railroads were ordered to keep records to which the new plan could be applied, pending the outcome of an appeal to the Court. The Court on Jan. 12 refused to reconsider its decision, ending a dispute between Eastern and Western railroads over car rental that began in 1953.

New from the ICC is a "line haul mile" charge, based on a car's annual reduction in value and its annual repair and maintenance costs. The total mileage charge varies according to a car's purchase price. Overall, the charges per line-haul mile range from a low of 1.47¢ to a high of 4.59¢. Time charges range from 63¢ to $10.22. The ICC method multiplies the mileage rate by the number of miles a car moves. The result is then added to the day rate to get the total time-mileage per-diem cost.

Following the Supreme Court's decision, a group of western Senators led by Warren G. Magnuson (D-Wash.), Commerce Committee chairman, tried unsuccessfully to get the Justice Department to join in a petition for reconsideration.

Magnuson also introduced a bill establishing a per-diem plan based on time only. His bill would double existing penalties for violation of ICC car-service orders and give ICC emergency power to impose extra penalties in times of severe car shortages.

For now, however, the Commission seems to be making the big moves in per-diem. In addition to getting its time-mile plan started, ICC wants to establish an incentive per-diem plan that would set extra charges of as much as $12.98 a day for the category of the newest and most expensive cars. Railroads have until Feb. 24 to file statements relating to this proposal. "An incentive per diem applicable on box cars during the fall and winter," ICC says, "should tend to speed up the use and movement of cars in these periods and should encourage the return of cars to their owners." ■

If you're coming to Chicago for a rest don't come to Sherman House.

There's too much happening at Sherman House.
For instance, there's the famous College Inn, headlining the most exciting names in show business.
And to go with the College Inn, Chicago's most lively and memorable restaurants and lounges—the Well of the Sea, the Celtic Cafe, the Dome and the Scuttlebutt.
So if you're coming to Chicago to be turned-on, not off, come to Sherman House.
And leave the rest to us.

Sherman House

Randolph-Clark-LaSalle • Chicago 60601
Reservations: (312) FR 2-2100

LETTERS

Tomorrow's Railroads

Washington, D.C.

To the Editor:

Congratulations on the excellent series of articles on "Tomorrow's Railroads." I followed each installment with great interest and, indeed, with great admiration for your ability to probe into the issues and to come up with some worthwhile and constructive recommendations.

I certainly agree with many of your conclusions and would hope that the reprint of the entire series receives wide distribution throughout the transportation, business and government communities. As you well know, quite a number of the problem areas you cited cannot be resolved by the railroads alone. We all have an obligation and part to play in improving and strengthening the entire U.S. transportation system.

It's refreshing to see someone taking a positive approach to the transport problems facing us and you deserve a hearty vote of thanks from all of us for "telling it like it is."

Harold F. Hammond, President
Transportation Association of America

Rochester, N.Y.

To the Editor:

Certainly, the publication of Railway Age for December 22/29, 1969 is one of the most significant events in railroading which I have observed since joining the General Railway Signal Company.

Indeed, your final issue of the Sixties may very well be one of the most enlightening, thought provoking, and motivating transportation happenings of the decade.

I know that most of the railroad community (and, hopefully, a meaningful number of persons surrounding it) have thoughtfully followed the "Tomorrow's Railroads" series since it began. Now, you have done an even greater service by wrapping it all up in what most surely becomes our text for tomorrow.

My sincerest congratulations.

G. E. Collins, President
General Railway Signal Co.

New York, N.Y.

To the Editor:

Your Dec. 22/29 "Tomorrow's Railroads" issue was great. The graphs and charts are descriptive and informative. The individual sections are eye-catching. You have been able to set down for discussion problems which beset the railroad industry. Congratulations!

Walter A. Renz
President
American Railway Car Institute

How much prestige?

San Leandro, Calif.

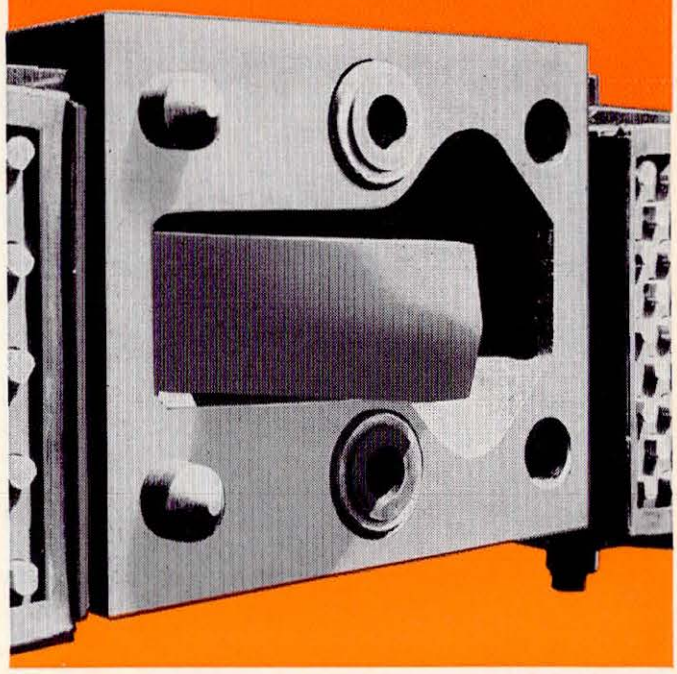
To the Editor:

Your editorial in the September 29 issue of Railway Age [Nixon Backs SST] is not only excellent, it is outstanding!

I personally believe the Nixon Administration is doing a pretty good job, but concerning priorities such as Space and the SST, I agree 100% with you. "How much prestige can we afford?" is hitting the nail on the head! I'd like to add "how much of this prestige do we really need"?

Robert R. Ryan
Traffic Manager
Pacific Division
Simmons Company

OLD PRO !!!



We say it respectfully. Old, because the Ohio Brass hook-type coupler was patented in 1906; pro, because O-B offers the rail and transit industries over 60 years of experience in coupler design. It's difficult to get more professional than that.

Some of the design innovations in O-B hook-type couplings over the years include the tightlock mechanism, automatic air line inter-connection, the self-centering device, pushbutton uncoupling, the patented energy release mechanism, and the inclusion of electrical couplers on the basic coupler assembly.

Transit systems such as Toronto's (using the coupler shown above) appreciate the minimum size and weight,strength, maintenance ease, and design simplicity of the O-B hook-type unit.

If you'd like further information on the O-B hook-type coupler, or any other O-B transit product, contact our district manager in your area. Or get in touch with us direct. 667-T

THE OHIO BRASS COMPANY • MANSFIELD, OHIO • 44902
Canadian Ohio Brass Company Limited • Ontario, Canada

OHIO BRASS

Circle 16 on coupon page 40

Northern Lines merger approved

(Continued from page 39)

Under new practices, eleven gateways formerly sewed up by the Northern Lines will be open to Milwaukee on a basis of free solicitation of traffic for the best route (for Milwaukee or Burlington Northern). Also, Milwaukee will be able to extend its present terminal point at Longview Junction, Ore., another 47 miles into Portland. This will give it a connection with a north-south coast route Southern Pacific-SP&S as well as strengthen its transcontinental posture (Union Pacific). At Portland, too, Milwaukee can connect with Canadian roads. In addition, Milwaukee will gain access to Billings, Mont. Finally, a dual basis of switching charges—a discouragement to movement over Milwaukee lines and to location of industry—will be eliminated.

● **Milwaukee never could compete.** As a rebuttal of the Justice Department contention that competition would be weakened, the Chief Justice said that Milwaukee really was never much of a competitor anyway, and only now through merger conditions will Milwaukee become one.

"Although the Milwaukee was designed and constructed to be a competitor, of the Northern Lines, it has never accounted for a large percentage of the carriage across the Northern Tier states to the Pacific Northwest; it has never become a rate-making railroad.

"The explanation for this is that although possessing superior grades and a shorter route west of the Twin Cities, it has never had adequate access to the gateways of the Pacific Northwest, largely because of the Northern Lines' control of the SP&S. As a result, its role has been that of a short-haul carrier feeding much profitable long-haul traffic to the Northern Lines at St Paul and Minneapolis."

● **Benefit broader than a strong-weak combine.** The Chief Justice also rejected the Justice Department argument that public benefit in mergers is limited to salvation of a weak company through union with a strong one.

"The Department of Justice is correct in stating that one focal point of concern throughout the legislative consideration of the problems of railroads has been [saving] the weak carrier through combination with the strong. Congress saw that as one—but only one—means to promote its objectives. The 1920 statute [Transportation Act of 1920] as a whole also embodied concern for economy and efficiency.

"Thus, a rail merger that furthers the development of a more efficient transportation unit and one that results in the joining of a 'sick' with a strong carrier serve equally to promote the long-range objectives of Congress and and, upon approval by the Commission, both are immunized from the operation of the antitrust laws."

The Court also supported previously approved stock exchange plans, which were contested by the Northern Pacific Stockholders Protective Committee, representing 3% of NP stockholders.

The elements of the new railroad:

—Great Northern, 8,282 miles (average miles of line operation);

—Northern Pacific, 6,747 miles;

—Burlington (jointly owned by GN and NP), 8,538 miles;

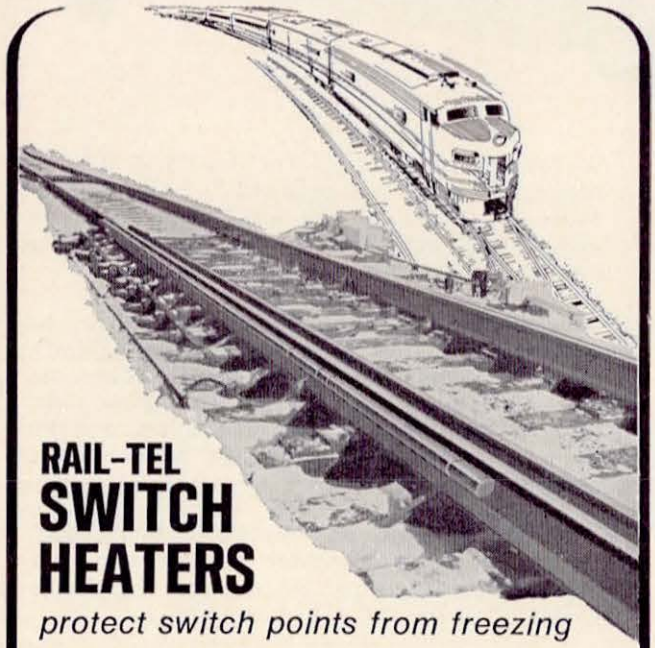
—Spokane, Portland & Seattle (owned jointly by GN and NP), 922 miles.

—Fort Worth & Denver (Burlington subsidiary), 1,279 miles;

—Colorado and Southern (Burlington subsidiary), 709 miles;

—Pacific Coast Railroad Co. (owned by GN), 32 miles.

The total of 26,509 miles would put BN ahead of Penn Central (23,668 miles) and the proposed Norfolk & Western-C&O/B&O (25,364 miles). BN will rank third in net assets, with $2.8 billion; Penn Central has $6.5 billion; and N&W-C&O/B&O, $3.2 billion. ■



RAIL-TEL
SWITCH
HEATERS

protect switch points from freezing

Proven design assures correct combustion under all conditions. Improved unit burner increases efficiency — dispatcher controlled, or automatic operation with the Rails Company Snow Detector.

New! Type RTS — Advanced design — Space age materials — New burner construction — New inspirator design.

made to last ■ easy to install ■ requires minimum maintenance ■ proven in thousands of installations all over the country.

THE RAILS CO. Maplewood, N. J. 07040 • Omaha, Neb. 68102
Chicago, Ill. 60604 • San Francisco, Calif. 94105
In Canada: IEC-Holden Ltd.

Circle 17 on coupon page 40

SPENO

You Are on the Right

To Lower
Maintenance Costs
When You Use

SPENO SERVICES

"BALLAST CLEANING"
"RAIL GRINDING"

"Just Ask the Railroads That have used us"

FRANK SPENO RAILROAD BALLAST CLEANING Company, Inc.
306 North Cayuga Street, Ithaca, New York
Clark Street, East Syracuse, New York

SPENO INTERNATIONAL, S.A.
22 Parc Chateau Banquet, Geneva, Switzerland
(For Operations Outside the North American Continent)

MEMBER RPI RAILWAY PROGRESS INSTITUTE

IEC-HOLDEN LTD.
8180 Cote de Liesse Road
Montreal, 376 P.Q., Quebec
(Sales Representative for Canada)

Circle 18 on coupon page 40

Thos. W. Russell, J
Abex

N. George Belury
Abex

SUPPLY TRADE

Thomas W. Russell, Jr., president, **Abex Corp.,** New York, has been elected chairman of the board and chief executive officer, succeeding **William T. Kelly, Jr.,** who has retired but remains a director of the corporation. **N. George Belury,** first vice president, named president.

John L. Devaney, Jr., sales representative, Railroad Products Group, Abex Corp., Houston, transferred to San Francisco. **Arthur M. Taylor,** sales representative, St. Louis, transferred to Houston. **Norman W. Smith,** sales representative, Philadelphia, transferred to St. Louis.

J. W. Henderson, Jr., president and board member, **Buckeye International, Inc.,** Columbus, Ohio, resigned Jan. 12 **Lewis I. Day,** vice president—finance, named general manager and chief executive officer of the corporation. **E. E. Stookey,** vice president, Buckeye Steel Castings division, named chief operating officer of that division. **Claude S. Farrell, Jr.,** vice president—operations, Plastics Group, will continue to be responsible for the corporation's four plastic companies.

C. S. Roscoe has been placed in charge of railroad sales, **Standard Oil Co. of California, Western Operations, Inc.,** at San Francisco, Calif.

Jackson H. Sell has joined the transportation Equipment Division, **Butler Manufacturing Co.,** as operations manager, Minneapolis, Minn. Mr. Sell was formerly vice president of marketing, **Transicold Corp.**

TRANSIT

Joseph P. Yeldell, first vice chairman, **Washington Metropolitan Area Transit Authority,** has been elected chairman of the board. **Carlton R. Sickles** has been elected first vice chairman and **A. Leslie Phillips,** second vice chairman.

James B. Reed has been appointed director of operations and **James S. Kosmo,** director of information, **Twin Cities Area Metropolitan Transit Commission,** St. Paul, Minn. Mr. Reed has spent over 20 years in the Army as a transportation officer. Mr. Kosmo was managing editor of Sun Newspapers' Bloomington, Richfield and Minnesota newspapers in the suburban Twin Cities area.

It's not how heavy they're made...

but where they're made heavy that counts

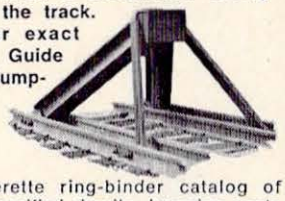
Hayes ALL-STEEL BUMPING POSTS

carry their weight in their legs where every ounce is working metal

Weight alone is no measure of value in a bumping post. The thing that counts is how efficiently the weight is used to take impact to the earth.

Hayes Posts utilize heavy steel bars in tension and massive H-columns in compression. Shock is distributed evenly and absorbed naturally under the track.

Six service types meet your exact requirements. Ask for "3-point Guide to Ordering Bumping Posts."



© 1968 H.T.A. Co.

Free leatherette ring-binder catalog of world's most-specified derails, bumping posts and wheel stops (including periodic supplement sheets). Write on letterhead.

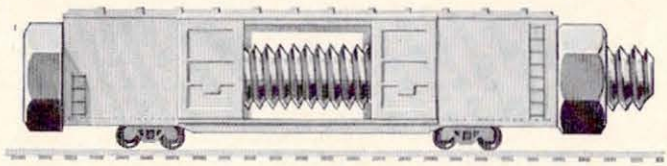
Track safety devices that WORK at the job.

Hayes Track Appliance Co.

RICHMOND, INDIANA 47374

Circle 20 on coupon page 40

We've been helping hold you together since 1878



Railroads and car builders have been using Lanman bolts and nuts to help hold freight cars and railway equipment together for over 90 years. What you want . . . safety, reliability, economy . . . is built into every Lanman bolt. Your special bolts, from ¼" to 4", are our standards.

LANMAN BOLT & FORGE COMPANY, Inc.

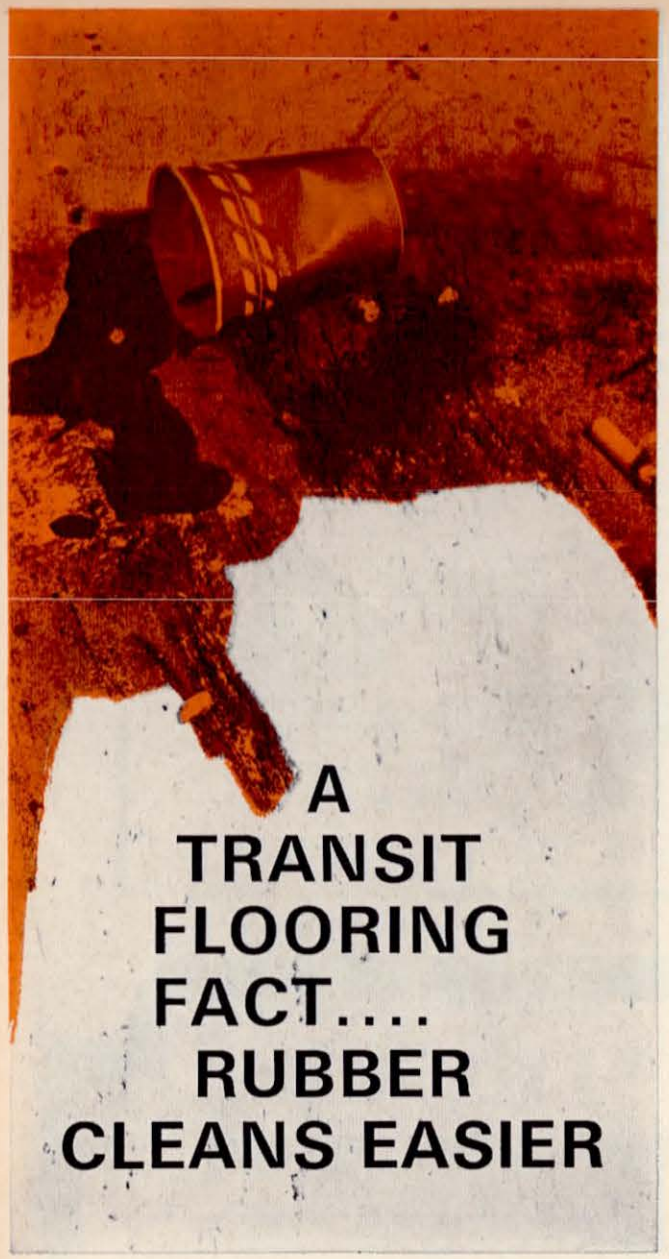
Member Railway Supply Association, Inc.

LBF

Bolts made to AAR Specifications

475 EAST 151st STREET • EAST CHICAGO, INDIANA 46312
(219) 398-0275

Circle 19 on coupon page 40



Whether it's slush, snow, dirt, cigarette scorch, gum or grease . . . it will clean off rubber Transit-Flor quickly, without staining, singeing or marring.

Durability, safety and eye appeal have been blended into Transit-Flor, providing your rail cars with a long-wearing, maximum-quality flooring that will outperform any other.

Result: Years and years of unexcelled wear.

THE R.C.A. RUBBER COMPANY

An Ohio Corporation of Akron, Ohio

1833 E. Market St., Akron, Ohio 44305

Circle 21 on coupon page 40

Jersey prepares for more rail commuters

A report issued by the New Jersey Department of Transportation predicts that passenger traffic on the state's commuter railroads will double by 1985 if the current program of subsidized capital improvements is completed.

The report, reviewing the first three years of the department's existence, notes that commuter traffic increased after new and refurbished equipment began to be placed in service. Another improvement—direct access to Penn Station in mid-Manhattan—is being studied.

"Preliminary conclusions of the Department and the Tri-State Transportation Commission," the report states, "indicate that [Penn Station] is greatly under-utilized—even during peak commuter hours."

Direct access to Penn Station would simplify rail commuting for users of the Erie Lackawanna and the Central of New Jersey. Presently, commuters on those lines must transfer to PATH trains at either Newark or Hoboken to reach New York.

The state department of transportation says a joint study with the Penn Central is being made to measure the capacity of Penn Station and the connecting tunnel under the Hudson River, and "to determine how to best utilize this vital facility."

Capital improvements made on the CNJ, described as an interim step, resulted in "operating savings of more than $1 million a year, as well as encouraging an increased level of patronage," the report states.

Among the improvements:

—Forty-eight air-conditioned cars were purchased from other roads, rehabilitated and leased to the CNJ.

—Thirteen locomotives were purchased from other roads and leased to CNJ.

—Sixty-five of CNJ's cars are being rehabilitated at the state's expense.

On the Penn Central, 35 new high speed stainless steel cars have been placed in service, and the state has requestd a Federal grant to purchase additional cars.

For the Erie Lackawanna, the state is purchasing 105 aluminum cars, which can be converted to self-propelled electric cars. (The state's master transportation plan calls for ultimate electrification of the entire E-L commuter service.)

A contract for 30 of the aluminum cars has been awarded to Pullman-Standard, and the state is exercising an option to purchase 75 additional cars. "This," says the report, "enables the Department to replace the existing locomotive-hauled fleet on the Erie Lackawanna completely, beginning next June."

The department debated whether to purchase the cars now or wait for electrification of the system. It decided it could convert the cars at a small, if any difference, compared to the projected cost of new electric MU cars if they were ordered to be delivered after completion of an electrification system three or four years in the future."

Although electrification is planned, the department says it has taken bids on six new locomotives and will advertise contracts for others.

For the Penn Central, the department said it purchased 26 cars from the Santa Fe for use on the PC's New York and Long Branch commuter runs. "This," says the report, "will allow about 25 of the railroad's present airconditioned coaches to be released for assignment in other services, seven having been designated for the main line and the others possibly for the CNJ shore service." ■

MARKET OUTLOOK

CARLOADINGS

Loadings of revenue freight in the week ended Jan. 31 totaled 518,081 cars, the Association of American Railroads announced on Feb. 5. This was an increase of 31,792 cars, or 6.5%, compared with the previous week; an increase of 17,648 cars, or 3.5%, compared with the corresponding week last year; and an increase of 14,273 cars, or 2.8%, compared with the equivalent 1968 week. Ton-miles generated by carloadings in the week ended Jan. 31 are estimated at 15.0 billion, an increase of 6.8% above the corresponding week of 1969, and 8.1% above the 1968 week.

REVENUE FREIGHT CARLOADINGS

For the week ended Saturday, Jan. 24

Commodity	1970	1969	Per cent Change
Grain	26,774	20,071	+33.4
Farm products	21,018	18,530	+13.4
Metallic ores	19,072	14,952	+27.6
Coal	92,360	99,552	— 7.2
Crushed stone, gravel & Sand	15,628	21,217	—26.3
Nonmetallic minerals.	7,875	9,209	—14.5
Grain mill products..	21,046	20,519	+ 2.6
Food & kindred products	26,501	25,619	+ 3.4
Primary forest products	23,028	22,915	+ 0.5
Lumber & wood products (except furniture)	13,603	14,676	— 7.3
Pulp, paper & allied products	24,338	24,152	+ 0.8
Chemicals & allied products	26,863	28,068	— 4.3
Petroleum products ..	11,360	12,757	—11.0
Stone, clay & glass products	14,626	18,396	—20.5
Coke	7,660	7,472	+ 2.5
Metals & products ...	26,851	28,788	— 6.7
Motor vehicles & equipment	21,846	24,725	—11.6
Waste & scrap materials	13,993	14,586	— 4.1
Forwarder & shipper assn. traffic	6,850	6,292	+ 8.9
All other carloads ...	63,677	72,936	—12.7
LCL traffic	1,320	2,191	—39.8
Total cars loaded..	486,289	507,623	— 4.2
CUMULATIVE TOTAL, 4 WEEKS	1970	1969	1968
	1,825,111	1,928,486	1,939,982
Estimated revenue ton-miles (billions) 4 weeks	52.2	54.1	52.8

PIGGYBACK CARLOADINGS

U. S. piggyback loadings for the week ended Jan. 24 totaled 23,897 cars, carrying 40,743 trailers, compared with 25,777 cars, carrying 41,337 trailers, in the corresponding 1969 week. Loadings for 1970 up to Jan. 24 totaled 86,372 cars, carrying 146,524 trailers, compared with 90,138 cars, carrying 147,179 trailers, in the corresponding period of 1969.

IN CANADA

Cumulative	Revenue Cars Loaded	Total Cars Rec'd from Connections
Dec. 31, 1969	3,627,541	1,221,509
Dec. 31, 1968	3,742,086	1,231,016

FREIGHT-TRAIN CARS

● *Boston & Maine.*—Has concluded an agreement with United States Railway Equipment Co. for the purchase, reconstruction and leaseback of 708 40-ft 50-ton B&M box cars. Work on the cars will be handled at USRE's Washington, Indiana, shops, and is to start immediately.

● *Canadian National.*—Has ordered 1,150 flat cars costing about $19 million. Marine Industries Ltd. will build 1,000 70-ton steel bulkhead cars. IEC-Holden Ltd. will build 150 50-ton 63-ft piggyback cars. Marine Industries' cars will be used in lumber and pulpwood service; delivery will begin in June and continue through November. Delivery of the piggyback cars will start in August and be completed by November.

● *Spokane, Portland & Seattle.*—Has begun receiving from Gunderson Bros. Engineering Corp. the first units of an $8.5-million order for 500 50-ft, 70-ton box cars. The order, says N.S. Westergard, SP&S vice president and general manager, is the largest single freight-car order ever placed by the railroad. The cars have been designed and built to handle fragile freight.

TRANSIT

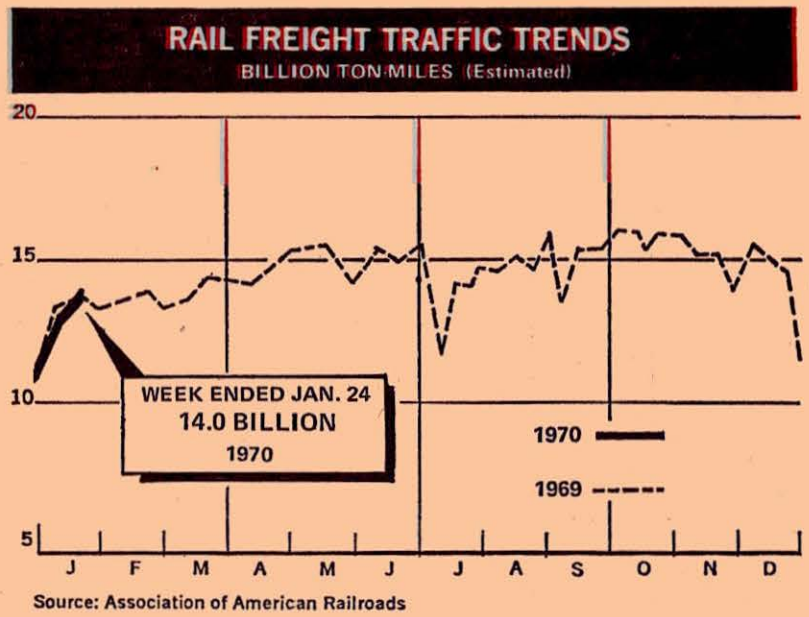
● *New York City Transit Authority.*—Has awarded a contract of about $5.4 million to General Railway Signal for train control equipment for 1.5 miles of the Stillwell Avenue interlocking. A GRS "NX" (eNtrance-eXit) route type console will be located at the Coney Island Yard Tower to direct wire control of the Stillwell Yard interlocking. Equipment to be supplied includes GRS Model 5 electric switch machines, Type AW color light signals, and a-c train stops.

● *Toronto.*—Transit Commission has awarded a contract to build 76 cars to Hawker Siddeley Canada Limited, the lowest of three bidders, at $11,781,787. The 75-ft cars, to be built of aluminum, will have a seating capacity of 83 passengers. Delivery will be made throughout 1971. The new cars will bring to 410 the number of cars in the Transit Commission's fleet.

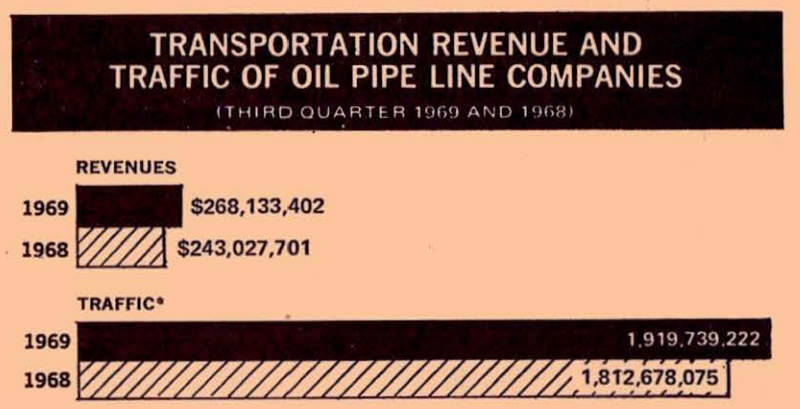
● *Westinghouse Electric Corp.*—Has received a multi-million-dollar order for propulsion and control equipment for 240 New York City Transit Authority rapid transit cars. The order was received from St. Louis Car Division of General Steel Industries, which will supply the cars to NYCTA. Delivery of the electrical equipment is expected to begin in the third quarter of 1970 and to be completed during the third quarter of 1971.

NEW FACILITIES

● *Diesel Division, General Motors of Canada Ltd.*—Will add a 77,000-sq-ft extension to its plant at London, Ont.



Source: Association of American Railroads

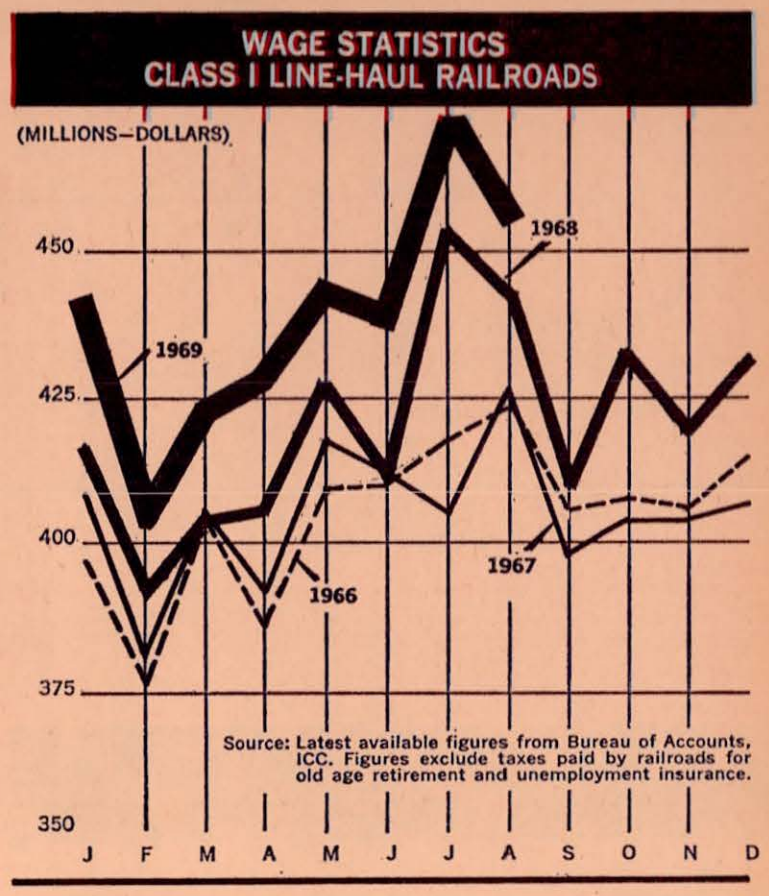


*Barrels of oil originated on line and received from connections.

Source: Bureau of Accounts, ICC. Compiled from reports of 85 pipe line companies with annual operating revenues exceeding $500,000.

Current Statistics

Net income, Class I roads	
12 months, 1969	$575,000,000
12 months, 1968	569,000,000
New freight cars on order	
Dec. 1, 1969	43,460
Dec. 1, 1968	26,923
New freight cars delivered	
11 mos., 1969	63,305
11 mos., 1968	51,696
Serviceable cars	
Dec. 1, 1969	1,360,795
Dec. 1, 1968	1,385,269



NEW ORDERS FOR MACHINE TOOLS*

	December 1969 ($000)	December 1968 ($000)	12 mos. 1969 ($000)	12 mos. 1968 ($000)
Metal cutting tools	81,150	110,150	1,193,650	1,079,350
Metal forming tools	25,800	39,550	533,000	394,750

MACHINE TOOL SHIPMENTS*

	December 1969 ($000)	December 1968 ($000)	12 mos. 1969 ($000)	12 mos. 1968 ($000)
Metal cutting tools	117,100	130,150	1,191,400	1,358,300
Metal forming tools	32,850	37,950	404,350	368,600

*Including foreign and domestic.
Source: National Machine Tool Builders' Association.

YOU OUGHT TO KNOW

CB&Q involved in giant KC development

Through an affiliate, Burlington has become a part of what's described as "one of the largest and most complex business transactions in the history of Kansas City"—namely, the formation of Great Midwest Corp. Principal owners of Great Midwest, along with the CB&Q affiliate, are Lamar Hunt, millionaire, industrialist, developer and owner of the football champion Kansas City Chiefs; and James E. Burke, a Kansas City lawyer. Great Midwest has holdings of about 1,500 acres, surrounding a multi-million-dollar recreation center development announced by Hunt last year. Over the next five years, the Great Midwest properties will be developed into a 1,000-acre industrial district, a regional shopping center, a truck distribution center and an apartment complex.

Service cut proposed by North Western

Chicago & North Western is proposing a reduction in Chicago-Green Bay passenger service in an effort to cut out-of-pocket losses which have totaled more than $1.1 million (on the trains to be discontinued) over the past three years. Three trains involved, C&NW says, are the equivalent of one of three Chicago-Green Bay roundtrip passenger operations now being conducted. After the train discontinuances, the road would still be operating two trains each way daily between Chicago and Green Bay (three on Sundays and holidays) and four trains each way daily between Chicago and Milwaukee. Says H. A. Lenske, director of commuter and passenger services: "For every $2.48 we took in on these trains last year, we spent $4.48 in direct expenses. Obviously, just to break even we would have required an additional huge fare increase. But that would have been self-defeating."

Passenger runs of new 747 jet carrying cargo

The cargo capacity of the passenger version of the 747 jet gives airlines an incentive to develop traffic "even in markets where cargo traditionally moves in only one direction and makes it profitable to fly over routes where passenger traffic is thin," according to Bruce N. Torel, executive vice president of the Pratt & Whitney division of United Aircraft. Addressing a meeting of the National Transportation Institute, Torel said the belly of the passenger version of the 747 has a cargo capacity "about equal to the 707 freighter." This, said Torel, makes it possible for an airline to break even on a 747 flight of 3,000 miles "without a single passenger on board" if the lower hold is filled with cargo.

Subway bids to be opened in Washington

Bids for an estimated $10-15 million worth of cut-and-cover work on the Washington D.C. Metro are expected to be opened Feb. 26, according to the Washington Metropolitan Area Transit Authority. The bids will be for construction of the subway segment running from 3rd and D Streets, N.W., to a point near Louisiana Ave. and E Street, NE. This is the fourth contract on which WMATA has invited bids. In another development, WMATA awarded an $850,692 contract to Parsons Associates for final design of approximately ½ mile of tunnel and one station under Eye Street, N.W., near Farragut Square.

IC officer, three others die in crossing crash

Newell C. Brown, 32, went to work for Illinois Central Dec. 1, 1969, as executive assistant to the president. He had been assistant director of Chicago's Office of Development Services, a social services organization. He was a newcomer to railroading—and a learner. On Jan. 24, he was in the cab of IC's "City of New Orleans" when the train hit a gasoline-laden tank truck at a grade crossing near Loda, Ill. Brown died of his injuries as did IC Transportation Engineer James A. Zagorski and the driver of the truck. The "City" engineer, Thomas F. Clarke, Jr., died three days later.

Wm. J. Harris, Jr.
AAR

W. Thomas Rice
Seaboard

Prime F. Osborn
Seaboard

Erle J. Zoll, Jr.
Seaboard

C. E. Mervine, Jr.
Seaboard

James R. Thorne
Seaboard

PEOPLE IN THE NEWS

ASSOCIATION OF AMERICAN RAILROADS.—Dr. William J. Harris, Jr., elected vice president, Research and Testing Department (RA Jan. 29, p. 8). The department will be headquartered in Washington but the AAR's Research Center will remain in Chicago. Dr. Harris was formerly director, Washington Office, **Battelle Memorial Institute,** in addition to serving as assistant director of technology for its Columbus, Ohio, laboratory.

G. M. Magee, assistant vice president—research, Chicago, retired Feb. 1, after 45 years of service.

R. H. Buchanan named manager, Railroad Relations Section, AAR's Car Service Division, succeeding the late **B. W. Taylor. H. D. Summers,** district manager, Car Service Division, Minneapolis, succeeds Mr. Buchanan as manager, Open Car Section, Washington. **P. A. Terrels,** assistant district manager, Pittsburgh, succeeds Mr. Summers at Minneapolis. **H. R. Heffernan,** assistant to manager, Open Car Section, Washington, succeeds Terrels at Pittsburgh. **C. W. Stephens**, advisory board secretary, Pittsburgh, named assistant to manager, Open Car Section, Washington.

CLINCHFIELD.—Ralph L. Durham appointed superintendent of grading, Erwin, Tenn.

GREAT NORTHERN.—Donald B. Stewart, superintendent of rules, named director of safety and rules.

PENN CENTRAL.—J. H. Burdakin, vice president and general manager, Lake Region, Cleveland, transferred to the Northern Region, Detroit, to succeed **W. B. Salter,** retired.

Patrick E. Hackett, assistant general attorney, Detroit, promoted to general attorney there, succeeding **H. G. Wyatt,** retired.

Eugene J. Huelsman, resident engineer, Columbus, Ohio, retires March 1, after 43 years of service.

SEABOARD.—W. Thomas Rice, president and chief executive officer, Jacksonville, Fla., elected chairman of the board and chief executive officer (RA, Jan. 5/12, p. 8). **John W. Smith,** chairman of the board, retired Dec. 31. **Prime F. Osborn,** vice president—law, elected president, effective Jan 1. **Erle J. Zoll, Jr.,** general counsel, elected vice president and general counsel. **C. E. Mervine, Jr.,** assistant vice president—personnel, elected vice president—personnel and labor relations.

James R. Thorne, vice president-operations, elected vice president-executive department, Jacksonville, Fla. **David C. Hastings**, vice president—transportation and maintenance, elected vice president—operations.

George M. McNeill appointed assistant general manager—transportation, Jacksonville, succeeding **C. H. Crumpler,** who retried Jan. 31.

David C. Hastings
Seaboard

William B. Seymour, manager personnel and labor relations, appointed director, personnel and labor relations, Jacksonville. **Donald C. Sheldon,** manager personnel and labor relations, named director, labor relations, Jacksonville.

OBITUARY

C. W. Ashby, former president and general manager, **Kentucky & Indiana Terminal,** Louisville, who retired March 1, 1964, died Dec. 31, 1969.

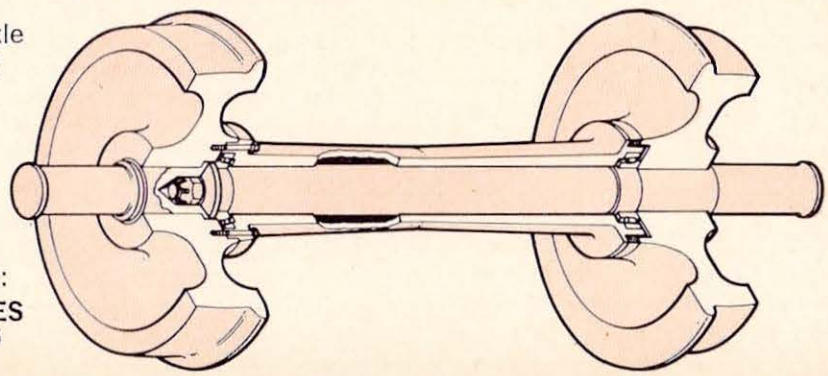
Ralph R. Deahl, 74, retired assistant to the president, **Nickel Plate** (now Norfolk & Western) died Jan 17, in a Boca Raton, Fla., hospital.

Carl W. Krohl, 74, retired general solicitor, **Burlington,** died Jan. 18 in Evanston Hospital, Evanston, Ill.

Frank Speno, Jr., 69, president, **Speno Railroad Ballast Cleaning Co.,** died Jan. 31 in Overlook Hospital, Summit, N.J.

FREE-WHEELING AXLE ELIMINATES CURVE TREAD FRICTION

Revolutionary new free-wheeling axle design available for a forward looking company to develop and sell under license agreement. Dual cross axle design guarantees solid non-wobble construction. Greatly reduces normally encountered wear on wheels and track. Increases hauling capacity of locomotives. Compatible with present trucks. For information write:



SEYMOUR F. JOHNSON ENTERPRISES
4748 Vieja Drive, Santa Barbara, California 93105
Steam Locomotives — Designer and Manufacturer

Circle 22 on coupon page 40

Accidents mar opening of Chicago transit line

At some point on the weekend of Jan. 31/Feb. 1, Chicago Transit Authority people must have wondered: What next?

On Friday, Jan. 30, with all appropriate fanfare, the mayor presided over the unveiling of the newest jewel in CTA's crown—the Kennedy Expressway median-strip rapid-transit line.

But from that point on, nothing seemed to go right. On Saturday, a test-run train derailed on the new line. On Sunday, one two-car train hit the rear of another in one of the line's stations and injured about 40 people—many of them using their day-of-rest to try out the route and see how it would work for them in regular commuting. Minutes after this accident occurred, another train approaching from the opposite direction derailed at a switch.

It was, over-all, a tribute to CTA that despite all this, the Kennedy line functioned when Monday's rush-hour began. But, function it did—as the mayor said it would.

Taking President Nixon's theme in his State of the Union address on an improved quality of life in the 70's, Mayor Richard J. Daley had dedicated the new 5.2-mile rapid-transit line by saying that citizens should leave their cars at home and ride the CTA to reduce pollution. The $48-million facility extends the existing Milwaukee-Dearborn L-subway from Logan Square northwest to Jefferson Park.

● **New bus terminal.** At the north end of the new line, Chicago Transit Authority constructed a new bus-railway-transit terminal. Covered walkways, stairs and escalators provide access to 10 CTA bus routes, Chicago & North Western northwest commuter line, Greyhound and United Motor Coach bus lines. It is only an 18-minute ride from Jefferson Park to the Loop where connections can be made to other rapid-transit lines. Although the new Jefferson Park station has no parking facilities, Daley said that he was confident that they would be added at this and the five other new stations on the line.

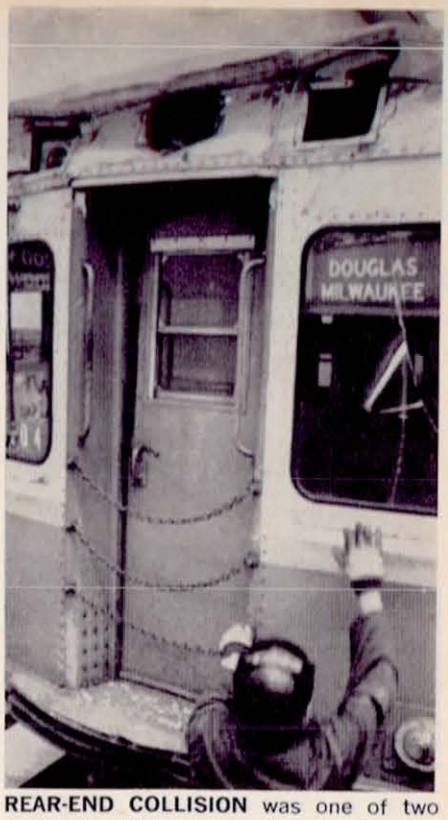
CTA expects upwards of 70,000 riders daily on the new line. While a considerable portion will come from the northend terminal, 12 CTA bus routes will make connections at the five other transit stations. Suburbanites using United Motor Coach buses and C&NW commuter trains will transfer to CTA at Jefferson Park station. A C&NW spokesman reports that there will probably be a slight drop in revenues because commuters will purchase round-trips to Jefferson Park instead of downtown to Chicago.

However, the convenience of rapid transit downtown and connections to south and west transit lines is expected to be a factor in drawing reverse riders. These are city people who work in the suburbs, and CTA expects many will ride the new line to the north end to connect with C&NW trains and UMC buses.

● **Extend to O'Hare.** CTA has begun a new non-stop bus service from the Jefferson Park station to O'Hare International Airport. At the dedication ceremonies, Congressmen Roman Pucinski and Daniel Rostenkowski expressed hope that the new line would be extended to O'Hare. It may be but the first new subway construction, said Public Works Commissioner Milton Pikarsky, will be two downtown subways. One would link the Loop with commuter railroad stations (Union and North Western) and the McCormick Place convention center. Another subway would replace the Loop elevated structure.

In accepting the new Kennedy median-strip transit line from the city, CTA board Chairman George DeMent said it was a great day for all citizens. He, among others, thanked the mayor for the leadership in obtaining local and federal funds to build the new line. DeMent added that the new line will afford a new "Northwest Passage," and with connections in the Loop it will make all parts of the city equally accessible.

Cars for the new line are part of an order of 150 furnished by Budd Co. for the Dan Ryan transit line, dedicated on Sept. 26, 1969. Automatic cab signals are designed to provide for safe operation at speeds up to 55 mph. ■



REAR-END COLLISION was one of two accidents which occurred during two-day test of new transit line in Chicago.

GULF CANADA APPOINTMENT

H. W. McTavish

Gulf Oil Canada Limited announces the appointment of H. W. McTavish as Manager—Transportation, effective February 1, with headquarters in Toronto. He succeeds H. Henson, who is on special assignment prior to his retirement in June with 50 years service.

Mr. McTavish joined the Traffic Section at Moose Jaw Refinery in 1938 and, following service there and at Calgary Refinery, was appointed Western Traffic Supervisor in 1953. In 1964 he became Co-ordinator of Planning and Services at the Company's Head Office and Assistant Traffic Manager in 1966. Two years later he assumed the position of Manager—Transportation East.

ADV.

Advertisers Index

Alco Products Service, Inc. 32
Berwick Forge & Fabricating Corp. 43
Bethlehem Steel Corporation 3
Brenco Incorporated ..... BC
Cities Service Oil Company 26-27
Dresser Transportation Equipment Div. 10
Eastman Kodak Company 41
General Electric Company 9
General Railway Signal Co. 4
General Steel Industries, Inc. ..... IBC
Griffin Wheel Company 28-29
Halsey, Stuart & Co., Inc. 13
Hayes Track Appliance Co. 47
International Car Corp. 39
International Nickel Co., The ..... IFC
Johnson Enterprises, Seymour F. 53
Lanman Bolt & Forge Co. 47
Lenkurt Electric Company 6
National Car Rental Systems, Inc. 42
National Castings Div. 14-15
Ohio Brass Company 45
Rails Company, The 46
Railway Educational Bureau 55
Safety Electrical Equipment Corp. 25
Speno, Frank 46
Sherman House 44
R.C.A. Rubber Co., The 48
Timken Roller Bearing Company, The 30-31
Western-Cullen Division 44

Study CAR MAINTENANCE and INSPECTION in spare time at home

Ever notice the respect given someone who knows more about the work than the next guy? It's usually "Ask Joe" or, "See what Joe thinks about this." Such knowledge sooner or later always adds to the pay check, and too, pays off in greater job satisfaction and personal pride. And who can put a dollar value on that?

You can be such a man by taking this two-year course for car department employees whose work requires an intimate knowledge of car maintenance and repair. Two lessons a month, in simple, non-technical language, guide you swiftly to a better working knowledge of the subject. Your lessons will be graded by experienced instructors who give individual, personalized advice as needed. The cost is low and payable in monthly installments. For full information, return coupon.

RAILWAY EDUCATIONAL BUREAU
1809 Capitol Ave., Omaha, Neb. 68102
Send full information on carman and car inspector home study course.

Name .....
Address .....
City, State, ZIP .....
Railroad .....
RA-2/70
Job title .....

IMAGINATIVE TRANSPORTATION CONSULTING

Economic and Financial Studies
Merger Evaluations and Analyses
Operations Planning and Implementation
Traffic, Sales and Market Planning
Inter-city Passenger Studies
Commuter Service Marketing and Operations
Equipment Selection and Utilization
ICC Case Preparation and Presentation

SYSTEMS ANALYSIS and RESEARCH CORPORATION
30 Boylston St., Cambridge, Mass. 02138
Write for Brochure
Cambridge • Los Angeles • New York • San Diego • Washington

WRITER: Full or part-time to revise railway correspondence course lessons for the Railway Educational Bureau. Reply to John E. Rogers, Railway Educational Bureau, 1809 Capitol Ave., Omaha, Nebraska 68102.

INTERNATIONAL ENGINEERING COMPANY, INC.
RAILROAD STUDIES • Designs • FIELD SURVEYS • REPORTS FOR TRACK LOCATION • STRUCTURES • YARDS • MAINTENANCE FACILITIES
220 MONTGOMERY STREET
SAN FRANCISCO, CA. 94104

WESTENHOFF AND NOVICK, INC.
Consulting Engineers
Railroads — Transit Facilities
Soils — Underground Structures — Bridges
Terminal and Maintenance Facilities — Waterfront Structures
Planning, Feasibility, Design, Construction Inspection
222 W. Adams Street
Washington, D.C. — Chicago, Illinois 60606 — Sao Paulo

MECHANICAL ENGINEER

Progressive, profitable Eastern Railroad has unique opportunity in the Maintenance of Equipment function for individual with a Bachelor's degree in Mechanical Engineering, at least three years railroad experience in equipment maintenance and strong administrative ability.

We offer a solid work challenge and the potential for advancement to top level responsibility in addition to an attractive base salary, fringe benefit program and location.

Since our employes are aware of this advertisement, your resume, including accomplishments and salary history as well as requirements, should be directed in complete confidence to:

Box 53
Railway Age, 30 Church Street
New York, New York 10007

An Equal Opportunity Employer

Advertising Sales Department

Chicago, Ill. 60602
29 E. Madison St.
(312) 641-5815
C. James Fisher—vice president—sales
Kerry F. Sheeran—regional vice president
John M. Brennan—regional sales manager
William J. Lyneis—district manager

New York, N. Y. 10007,
30 Church St., (212) 964-3060
W. Arthur Cubbage—regional sales manager
Charles E. Keil—regional sales manager

Pittsburgh, Pa. 15219, Room 1230,
(412) 471-7871
Frick Building
Ronald M. Giallonardo—regional sales manager

Dallas, Tex. 75206
Noel Page Building
6400 N. Central Expressway
(214) 361-6972
Joseph Sanders

Los Angeles, Cal. 90025
11704 Wilshire Blvd.
(213) 477-4004
Fred Klaner, Jr.

San Francisco, Cal. 94133,
515 Pacific Ave.
(415) 421-7004
Lewis A. Vogler & Co.

London S. W. 1, England
01-839 6318
67/68 Jermyn St., St. James's
Max F. Holsinger, Peter Clifton, Alan Berg

Manchester 22, England
Haletop
Wythenshawe Civic Center
Ian Goulden

Paris, 8e, France
70 Rue de Ponthieu
Stephen Brown-Joussard

4 Düsseldorf-Rath
Eitelstrasse 32
Max F. Holsinger, E. Hillerbrand, Herbert Haibt, Reinhard Schomburg

Tokyo, Japan
Sun Gain Shia, Ltd.
Shiba Nikkatsu Bldg.
13, Shiba Park
Minato-Ku
C. H. Yiu, Managing Director

VIEWPOINT

There oughta be a law

Blessed be the lawyers, so a new Beatitude might go, for they shall inherit whatever is left of the earth when they're done with it. But if you happen to be in the railroad business, sometimes you have to wonder about what *is* going to be left.

This is not a rap at railroad lawyers. To be sure, the standing joke says that anytime a railroad lawyer gets involved in a merger case or a rate case or a per-diem case or a management/labor case, he has a lifetime job. But legal requirements must be satisfied, and the railroad lawyer is only doing the job demanded of him by the law and by the times.

The real rap might be applied to "other" lawyers—those who, while governing the country, seem to go well beyond their individual fields of expertise to make policy and law. At least so far as transportation is concerned, these "other" lawyers may be creating more disorder than order.

These politician/lawyers—legislators, judges, members of various regulatory commissions—came under fire most recently in sharp comments from a man who has viewed transportation from the financial side. Thomas M. DeLaney is director of research in the Bank of America's investment research department—and this is his tart observation:

"Lawyers used to confine their labors to what was just or unjust and then establish law accordingly. It seems to me, however, that they have wandered into the fields of economics, marketing, industrial engineering, operations and cost accounting, where they are not qualified academically or through work experience to render life-and-death decisions over business in general and transportation in particular.

"The judiciary is guilty as charged, for if the United States is supposed to be a land of no discrimination and equality for all, then this does not mean by any stretch of the imagination building tax-free waterways for one, taxing the railroads to death and at the same time letting labor do as it damn well pleases.

"In short, I believe that the Congress, the judiciary and the regulatory agencies have abdicated their responsibilities to the public."

Tom DeLaney's indictment deserves a listen. So does his proposal for bringing some kind of order out of the chaos of transport regulation —which is to abolish the present regulatory agencies and restructure DOT on a quasi-corporate basis with a board of directors, broadly-based, to "preside over all transportation authority." The board could include transportation owners, creditors, suppliers, consulting engineers, accountants, labor representatives, shippers. But there would be no legislators, no lawyers. Says DeLaney: "These factions have already done damage enough."

DeLaney wants it made clear that he's not speaking for the bank, in making these suggestions—only a worried individual who has studied the needs and the problems of transportation. That disclaimer may not really be relevant. An idea is an idea. DeLaney's does deserve a long, hard look *and* listen.

Our objective is to put your flat car "repair departments" out of work! We do it by building flats with GSI One-Piece Cast Steel Underframes. They can take the shock and impact of today's long trains. Your cars stay on the road and out of the shop. That's why GSI Underframes are worth every dollar you invest in them.

CASTINGS DIVISION | GSI

GENERAL STEEL INDUSTRIES, INC. • Granite City, Ill. • Philadelphia, Pa. • San Francisco, Calif.

BRENCO
You can't machine strength into a metal. But you *can* roll it in. Our exclusive forging/ring rolling process shapes the metallic structure of Brenco bearing components . . . to follow contours, flow around corners, build in maximum strength and longer life at less cost. Write for more information on Brenco heavy-duty tapered roller bearings. Brenco Incorporated, Petersburg, Virginia.
BRENCO Tapered Roller Bearings